Office Supreme Court, U. S.
FILED.
JAN 8 1891

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1890.

No. 1485.

CONSOLIDATED ROLLER MILL COMPANY, APPELLANT,

vs.

R. R. WALKER, APPELLEE.

SUBMITTED UNDER RULE 20.

ARGUMENT OF R. MASON, OF COUNSEL FOR APPELLANT.

THE SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1890.

No. 1485.

THE CONSOLIDATED ROLLER MILL COMPANY, APPELLANT,

vs.

R. R. WALKER.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE WESTERN DISTRICT OF PENNSYLVANIA.

Brief for Complainant.

The complainant charges the infringement by Defendant of Letters Patent 228525, issued to Wm. D. Gray, assignor, by mesne assignments to Complainants, for improvements in Roller Mills.

Defendant denies infringement as charged.

Alleges the invalidity of the patent.

Alleges the expiration of the term on account of the lapse of

First—A German patent to said Gray for the same invention.

Second—An Austrian patent to said Gray for the same invention.

GENERAL REPLICATION BY COMPLAINANT.

The Court below decreed the dismissal of the bill of complaint and handed down an opinion, holding:

First—That the first claim of the patent was invalid for want of novelty.

Second—That the alleged invention was not patentable, in view of the state of the art, because the patent did not disclose any patentable subject matter in the first claim thereof, said claim being the only one of which infringement was alleged in the proofs submitted.

Third—That the patent was not infringed by the Defendant.

The Appellant assigns as the errors relied upon:

First—That the Court erred in dismissing the bill for want of equity.

Second—In holding that the first claim of the patent was invalid for want of novelty.

Third—In holding that the said first claim of the patent did not disclose any patentable subject matter, and

Fourth—In holding that the Defendant did not infringe the said patent.

And, for these errors, the Appellant prays that the said findings and decree may be reversed, and that the validity of the said patent may be established, and that the Defendant may be held to have infringed the same.

R. MASON, *of Counsel for Appellant.*

EXTRACTS FROM THE AUSTRIAN PATENT LAW OF AUGUST 15, 1852.

8. Petitions for exclusive privileges may be lodged with the stadtholder, or with the Judges of districts (judges, delegates, county magistrates), to be forwarded by them.

9. Those petitions must be arranged according to the Form A. They may be delivered by the applicant himself or his attorney. Such petitions must contain—

(*a*) The christian and family name, profession, and residence of the applicant; and, in case of his not being settled in the Empire, also the name, profession, and residence of an attorney domiciled in the Empire. Applicants must state their christian and family name, profession, etc., even if the privilege is to be worked under a firm bearing a different name from that of the patentee. In such cases the name of the firm chosen must be stated. The said firm, however, must not correspond with an existing firm unless the consent of its proprietor be obtained.

(*b*) The name (title) of the discovery, invention, or improvement, giving the essence of it.

(*c*) The number of years for which the patent is demanded. That number of years cannot exceed fifteen, except by a special grant of the Emperor; and those inventions patented already abroad, and which are to be imported by their proprietors or their assigns, can only be patented for the unexpired term of the foreign patent.

(*d*) The statement whether the discovery, invention, or improvement is to be kept secret or not.

10. Petitions for patents must be accompanied by—

(*a*) The due tax, or the receipt for the same, given by a public treasurer to whom the said tax has been paid. Except that tax, or other fees are to be demanded for a patent, even in the case of a previous examination on public grounds.

11. The patent tax is in proportion to the duration of the privilege, and is the same for discoveries, inventions improvements for foreigners or natives. It amounts to 100 florins for the first five years, 200 florins for the following five years, and 400 florins for the last five years; the annual ratio being 20 florins for the first five years, and that of the subsequent years as follows: Sixth year, 30 fl.; seventh

year, 35 fl.; eighth year, 40 fl.; ninth year, 45 fl.; tenth year, 50 fl.; eleventh year, 60 fl.; twelfth year, 70 fl.; thirteenth year, 80 fl.; fourteenth year, 90 fl.; fifteenth year, 100 fl., amounting to 700 fl. for fifteen years, the longest period allowed.

The tax due for the whole number of years which the privilege has been applied for must be paid down at once, or a receipt for the amount has to be produced, to avoid the petition being rejected.

The said tax can only be repaid in case of the privilege being annulled on public grounds, and such repayments shall be in proportion to the unexpired term.

18. In all those cases where the checking and examination according to section 16 diclose no obstacle, the privilege is granted by the Minister of Commerce and Trades by a separate document, otherwise all petitions deemed unfit for acceptance are rejected, the motive for so doing being mentioned, and the tax being ordered to be repaid. However, where there exist defects that may be amended, such rejection takes place only after the applicant has failed to amend such defects within the proper term assigned to him for that purpose.

21. An exclusive privilege secures to the patentee the exclusive use of his discovery, invention, or improvement, as laid down in his specification, for the number of years mentioned in his privilege.

25. The longest duration of privileges is fixed at fifteen years. We reserve to ourselves the right of extending that term, yet such a prolongation shall be demanded by the public authorities only for highly meritorious cases.

27. Every patentee whose privilege has been granted for a shorter period than the longest (sec. 9, *c*) may claim its prolongation for one or more years within the fixed longest period, provided they demand such a prolongtion before the privilege has become extinct (sec. 29–2, *a*, *b*). To obtain such a prolongation a petition for the same must be delivered in due time, together with the original patent, and the tax in full for the required term of prolongation (sec. 11), or the receipt for the same from a public treasurer.

29. Privileges lose their force—

1. By nullity or by termination (recall, surrender or decree).

2. By extinction, which takes place—

(*a.*) If within one year at the latest from the date of the patent the patentee has not begun to work his discovery, invention, or improvement in the empire, or whenever he has interrupted his works for two complete years.

(*b.*) If the original or prolonged term of the patent has expired.

(*c.*) If the privilege is surrendered voluntarily.

42. The ministry of commerce and trades alone decides the question whether a patent, from any legal cause whatever, is to be considered null and void or as extinct (sec. 29). It therefore especially decides the question of the novelty of a discovery, invention, or improvement; moreover, the question as to whether it had only been imported from abroad, and was not appropriate for a privilege; finally, in contestations arising between two patentees, the ministry decides the question of the total or partial identity of their privileges.

43. The examination and punishments of the infringements mentioned in secs. 38 and 39 belongs, except so far as other regulations to

be published in future, to the tribunal of the district in which they took place, according to the laws concerning trades. An appeal to the higher tribunal of the respective province is open for parties who feel themselves injured by such decisions, and in case of the first decision being modified before that tribunal, also to the ministry of commerce and trades; however, such appeals must be in all cases made within fourteen days at the latest of the signification of the judgment.

45. If during the inquiry the decision is found to depend on preliminary questions determinable by the ministry of commerce and trades (sec. 42), such a decision must be sought for officially, and the criminal proceedings are to be suspended until it is obtained.

EXTRACT FROM A DECISION OF THE MINISTER OF COMMERCE, JULY 27, 1882, RELATIVE TO THE TERM OF AN AUSTRIAN PATENT.

Imp. Roy. Ministry of Commerce, No. 19, 328:

It is herewith affirmed that according to the provisions of the patent law of August 15, 1852 (Reichs Gesetzblatt, No. 184), each extension of a patent has solely to be considered as an officially authenticated acknowledgment of the fact that the patentee really avails himself of the right to maintain his patent further in vigor, this right being conferred on him for the lawful term of fifteen years by the original granting of the letters patent, although this latter may not purport to be a fifteen years' one; that for this reason no Austro-Hungarian patent expires in consequence of its original term having elapsed, if the extension of the patent has been applied for in due time, and all the other lawful requirements have been fulfilled in the same time.

VIENNA, July 27, 1882.

By proxy of the minister of commerce,

PROFF, M. P.

From 23 Pat. Off. Gaz., 273.

SUPREME COURT OF THE UNITED STATES.

CONSOLIDATED ROLLER MILL COMPANY,
vs.
R. R. WALKER.
No. 1485.

This cause comes up upon appeal from the Circuit Court of the United States for the Western District of Pennsylvania.

The bill alleges the infringement of letters patent which issued to Wm. D. Gray for improvements in Roller Mills No. 228525.

Another patent named in the bill was not presented at the hearing.

Proof was introduced to sustain the charge of infringement as to the first claim, which reads:

First—In a roller grinding mill the combination of the counter shaft, provided with pulleys at both ends, and having said ends mounted in vertically and independently adjustable bearings, the rolls C. E. having pulleys connected by belts with one end of the counter shaft, and the rolls D. E. independently connected by belts with the other end of the counter shaft, as shown.

Infringement was alleged by the use of a roller mill, shown in "Complainant's Exhibit Drawing of Defendant's Machine," printed in the record in three sheets immediately preceding page 205.

The charge was sustained by the testimony of Jesse M. Smith, page 21, Q. 13, who saw the machines in operation in Defendant's mills, page 18, Q. 4 to 7.

The title of Complainant is printed on pages 234-235.

The defenses set up were, in brief, invalidity of the patent, non-infringement and expiration of term by reason of lapse or forfeiture of term of an Austrian and a German patent.

The Court below dismissed the bill, holding that the patent was invalid, that it was not infringed, but holding that its term had not expired.

The case by stipulation, printed at the conclusion of the Record, is submitted on printed argument under Rule 20.

The proofs show that Mr. Gray was foreman of the mill furnishing department of Ed. P. Allis & Co., of Milwaukee, Wis., who have built roller mills containing Gray's improvements, to the number of 1,000 to 1,600 per year, since his inventions were made in 1878, and continued at the time the testimony was taken.

Gray, q. 2, p. 44; q. 34, p. 47.

Ed. P. Allis was the owner of the patent and since assignment continued to manufacture under it.

Page 235, Assignments.
Gray, q. 33, p. 47.

Allis was a member of Complainant's company.

W. W. Allis, x. q. 14, p. 63.

The Allis manufactory is the largest mill furnishing establishment in the world.

Gray, q. 4, p. 44.

They were already making roller mills when about the 1st of June, 1878, Mr. Gray made the invention covered by this patent.

Gray, q. 15, p. 45.

He made other inventions relating to the adjusting devices of roller mills, which were covered by his patents, No. 222895, dated December 23, 1879, and 238677, dated March 8, 1881.

Record, pp. 237-239.

Review of the Situation as it is Disclosed to Have Existed in 1878.

The practical experts examined were selected from the leading mills of spring, winter and mixed wheat belts.

Mr. Miller is head miller for the Pillsbury Mills, of Minneapolis
Mr. Putnam, from the Cleveland Milling Company's Mills, of Cleveland, O.
Mr. Freischmidt, from Sanderson's Mill, in Milwaukee.

There are no higher authorities on milling, and not a statement made by either is controverted by any witness. The testimony applied to other suits on other patents as well as to this.

See Stipulation, p. 27.

It is a matter of common knowledge that before 1875 a radical change in milling was made, which was familiarly called the new process.

This came before the Court in Cochrane *vs.* Deener, reported in 4th Otto, 780, and before the Circuit Courts in other actions reported in Fed. Rep.

It consisted in converting the middlings into a condition for making the very best grade of flour by sifting and blowing before re-grinding. The result was that what had been an offal became the very best flour-producing part of the grain, and consequently, while the old-fashioned miller tried to make as little middlings as possible, the new process miller tried to make the most.

Millstones were then the universal means of reduction.

Putnam, x. q 75, p. 76.
Freischmidt, q. 35, p. 40.

Changes in the mode of reduction required by the adoption of the new process, and gradual reduction by repeated actions, instead of grinding at a single operation, led to demands for a new agent for reducing the wheat.

Rolls were suggested; several styles were patented, and have been made exhibits. But their number is exaggerated in the Record by putting in evidence the same machines appearing in different patents and publications in different countries, but all showing the same machines.

Mr. Gray, six months after this invention had been made and put into use here, went to Europe, about the 1st of Jan., 1879.

Gray, q. 35, p. 48; q. 29-30, p. 47.

He visited the principal mills and found that very little had been done anywhere except at Buda Pesth, in Hungary.

Question 37.

The best roller mill there was what is known as the Ganz and also as the Mechwart, one being the inventor the other the manufacturer.

Question 39.

They were very imperfect, did poor work, and the best mill in Buda Pesth, if bodily transferred to the United States, could not run profitably in competition with our mills, which do better work.

Questions 40 to 46.

THE NEED OF BETTER MEANS OF REDUCTION WAS WELL RECOGNIZED IN THE UNITED STATES.

Allis had already made Wegman roller mills, which were faced with porcelain, and some smooth iron rolls, which were used for crushing middlings, but, of course, can not grind.

Gray, q. 9, p. 45, q. 13.

The Ganz rolls had also been imported. *Ib.*
These rolls were little used at that date.

Ib., q. 12.

It was as late as the following year that Mr. Putnam, then working in St. Louis, which is second only to Minneapolis as a milling center, had roller mills in use for the first time. These were Downton smooth rolls.

Putnam, x. q. 77, p. 76.

Although he had, before that, read in the milling papers of the use of Ganz and Wegman rolls in 1878.

X. q. 78, x. q. 79, p. 76.

THE ROLLER MILLS IN USE BEFORE GRAY'S IMPROVEMENTS WERE VERY IMPERFECT.

The mills made by Allis were very unsatisfactory, and there is no evidence that any one made any better machines.

Gray, q. 13 and 14, p. 45.

The roller mills made under license from Wegman proved a failure in regard to adjustment and drive, and it was only after Gray's improvements were added that their sale increased.

W. W. Allis, q. 2, p 61.

Prior to Gray's improvements no roller mill was known to the trade which was capable of doing its work well enough to have displaced the millstones which were then in common use.

Freischmidt, q. 39, p. 40.
Gray, q. 11, p. 45.
Putnam, q. 24, p. 66.

And after an examination of all the defendant's model exhibits, Mr. Putnam says: "It would have been impossible, with any of the machines represented by these models, to have competed with the like qualities of flour and econominal results being produced by the millstone, at the time of the introduction of rolls in this country."

Question 56, p. 73.

After Gray's Invention.

When Gray's improved roller mill had been brought to the knowledge of the trade, it received immediate approval and general adoption by the trade. They superceded the millstones very rapidly.

Freischmidt, q. 40, p. 40.

Gray says that his belt drive "has been adopted by pretty much all the mill furnishers in this country and in Europe. In fact, it is hardly possible to sell a machine with any other drive."

Question 24, p. 46.

Mr. W. W. Allis says that Gray's improvement as to adjustment and drive were applied to the Wegman machine. "This overcame entirely the objections made to the original machine, and our sales steadily increased."

Question 2, p. 62

Mr. Putnam says that the Gray roller mill was the first one introduced into use, the perfection of whose parts met the requirements of the American miller.

Question 24, p. 66.

And again he says that, after the roller system was introduced to the attention of American millers, he believes it went into use here quicker than could have been possible in any other country.

Question 86, p. 77.

It is as perfectly established, as any thing can be by the testimony of witnesses disinterested and intelligent and uncontradicted, that prior to Gray's improvements no roller mill was known to the American millers which was as good for practical use as the immemorial millstone, and that when Gray's mill was introduced it was generally and immediately adopted. The change involved an entire revolution in the trade.

Gray, q. 9, p. 45.

So that Freischmidt says, "To the most extent they have disposed of the millstones entirely."

Question 36, p. 40.

The concurrence of these two facts has been universally accepted as conclusive as to the merits and importance of the invention, and generally as to the fact that the change from the incomplete and imperfect and unsatisfactory machines to one which met a recognized demand,

was sufficient evidence that the inventive faculty had been required and employed. Complicated machinery is not a spontaneous product, it must be first invented and then built.

What Was Required?

The testimony fully shows the exigent character of the demand made upon inventors. This is fully set out by Mr. Putnam in answer to qs. 17 to 23, p. 66, as well as by Miller, qs. 23 to 26, p. 30, and Freischmidt, qs. 24 to 41, p. 30. Most of these do not concern the present case. But specific evidence is given as to the need of a belt drive, instead of the geared drive, which alone any of the witnesses had ever seen on roller mills, and defendant proved no other as having been in practical use.

There is no uncertainty as to the defects of a geared drive.

They produce a trembling motion and uneven work as soon as they are worn.

Miller, q. 12, p. 28.

It is impossible to do good work on them.

Ib., question 13.

They get shoulders worn on the cogs, and it is impossible to adjust the rolls after that.

Freischmidt, q. 44, p. 40.

A geared machine will not admit of a fine adjustment. The jarring motion impairs the grinding. Part of the stock will be ground and a part will pass unground. Sometimes the gears drive the rolls, and sometimes the frictional contact at the grinding line will cause the roll to be driven by friction, and so the work is irregular and this impairs its quality. This uneven work causes the rolls to wear into ridges, and to grind closer in one place than in another.

Gray, q. 16, p. 46.

When it is remembered that such rolls must work with the very extremest accuracy, the importance of these matters becomes evident. Mr. Miller states, q. 10 and 11, p. 28, that under conditions in which a mill with rolls capable of perfect adjustment would run at a profit, with those of imperfect adjustment, it would be run at a loss. And he illustrates by saying that one of the Pillsbury Mills was refitted with perfected rolls at a cost of $35,000, throwing out inferior roller mills. And all the witnesses agree as to the absolute necessity of having rolls capable of perfect working adjustments.

It is stated that these adjustments are so delicate that in practice alterations are recognizable which involve a change of less than the four-thousandth part of an inch.

Miller, q. 20-22, p. 30.

The figures given by him show that a movement of one-eighth of an inch on an eight-inch lever, turning a nut of one-tenth of an inch thread, will be recognizable. That is to say, the circumference of the

circle described by the eight-inch lever will be fifty inches. An entire revolution would move the nut one-tenth of an inch. One inch of movement of the end of the lever would be one-fiftieth of one-tenth, or one five-hundredth part of an inch, and one-eighth of this would be one four-thousandth part of an inch.

It is not important now to consider whether Gray was or was not the first to provide means for making and retaining such delicate adjustments. That belongs to other patents not involved in this case. But the testimony cited shows that no delicate adjustment can be maintained where gears are employed to drive the rolls.

Miller says in answer to q. 13, p. 29: "State whether or not, in your opinion, it would be possible to do satisfactory work upon a geared roller mill? Answer—No, sir; it would be impossible, in my opinion."

Freischmidt was asked, q. 45, p. 40: "State whether or not a gear drive is used in first-class roller mills? Answer—In first-class roller mills there is nothing but belt drives used." In the preceding answer he had said that "gears get shoulders in a short time, and it is impossible to adjust your rolls after that."

Putnam says, on page 68: "In a very short time it became apparent to the American millers that rolls could not be successfully operated by means of gears for driving purposes, for these several reasons. The grouping together of a number of four roller mills which were geared would produce such a deafening noise that they were not only unpleasant, but injurious to the operator. Adding to this the utter impossibility of adjusting the rolls closer together after they had occupied a given position for a considerable length of time; on account of the shoulders that would be worn in the teeth of the gears, and against which the point of the matched gear would crowd in case of nearer approach being attempted, and the trembling action which would be imparted to the point of contact, the roller frame, and the floor on which it stood. All these objections made the use of geared mills impracticable. The first belt mill of a satisfactory character offered to the American millers was Wm. D. Gray's, as shown in Patent No. 228525."

It is therefore established that, however perfect the roller mill may be in other respects, all would go for nothing if a gear drive was used. The belt drive is therefore an indispensible requisite to a successfully operative roller mill.

The Requisites of a Belt Drive.

It must have capacity to do the largest practicable amount of work.

Putnam, q. 17, pp. 65-66.

The pulleys must be large and the belts have ample face contact, in order to give the requisite power to perform the very severe labor imposed upon the rolls.

Putnam, q. 25, p. 67.

In order to grind, as distinguished from merely crushing by squeez-

ing, the two rolls of a pair must run at different peripheral speed. This is called the differential.

Miller, q. 42, p. 32.
Freischmidt, q. 47, p. 40.

They must run in opposite directions. *Ib.*

The pulleys should be of larger diameter than the rolls which they drive.

Miller, q. 34, p. 31.

The rolls must be capable of readjustment while running.

Miller, q. 9, p. 27.

The differential should be capable of ready change in order that the same pair of rolls may be adapted to different reductions.

Miller, q. 43-45, p. 32.
Freischmidt, q. 50, p. 41.

It is especially important that provision should be made for tightening the belts when they become stretched, and for "steering" them, that is, preventing their running off the pulleys when they become more stretched at one edge than at the other.

Putnam, q. 21, p. 69.

The belts should be "open," and not "crossed," the latter being the ordinary mode of reversing motion where belts are used, but highly objectionable in roller mills, because the rolls require great power, and hence heavy belts, and economy of space is important.

Freischmidt, q. 53, p. 41.

The belts, if driven from the same line shaft and crossed, must be short, and additional holes must be cut in the floor. *Ib.*

All of these difficulties are avoided and all of these requisites are met by the construction adopted by Gray.

Smith, q. 12, p. 21.

What Gray Invented.

It is evident that the problem submitted to Gray was a very complicated one, and a contemplation of it makes it easy to see why a recognized and pressing want had not been immediately supplied.

The roller mills in use in grinding wheat are, nearly all of them, made up of two pairs of rolls, placed in one horizontal plane. Such are Gray's and such are defendant's and such were the Mechwart, Ganz and Wegman rolls shown in the exhibits.

The reason of this is self evident; these rolls are very heavy, they run at high velocity, and with great strain imposed on account of the millers' anxiety to get the greatest possible work out of a given plant. If piled one above the other, the height of the machines would cause excessive vibration, especially under the strain of driving belts. And besides the miller could not conveniently examine their product and correct their adjustments. Accordingly, there is no reference in the

be said that Gray's "Elegy in a Country Churchyard" is not an original composition, because all the words were to be found in the dictionary, as to say that Gray's roller mill was not an original piece of machinery because it is made up of well known elements.

Combinations are always to be regarded as an entirety, and, if new as a whole, there is no need of inquiring whether the elements are old or new, any more than we would criticise a new composition because made up of words in common use. In both the merit very often consists in their simplicity.

The elements of the claim are those which enter into the composition of a roller grinding mill, having four rolls in one plane, and specifically consists of—

First—A counter shaft, provided with pulleys at both ends.

A counter shaft is, literally, an opposite shaft, and, as employed in mechanics, generally signifies a shaft in the machine opposite to one or more other parallel shafts, with which it is connected by belt or gearing. It is usually the intermediate one of several shafts, and a transmitter of motion.

Second—Vertically and independently adjustable bearings, carrying each end of the counter shaft.

These are the journal boxes in universal use, carrying the counter shaft, which are, in terms, as limited, capable of vertical adjustment independently. No other limitation is imposed by the terms of the claim, and, on general principles, any known method of giving the adjustment may be employed.

Third—The rolls C. E.

These are two alternate rolls, respectively belonging to two different pairs of rolls placed in one plane.

Fourth—The pulleys *c e* on these roll shafts, and belt connecting them with the counter-shaft.

This is the belt N which drives the two *alternate* rolls C and E, one of each pair of rolls and also drives the counter shaft in a reversed direction.

Fifth—The rolls D and F.

These are also *alternate* rolls and, respectively, the other rolls of the two pairs, arranged in one plane.

Sixth—The belts connecting the pulleys on said rolls with those on the other end of the counter shaft.

These are the belts R and S connecting, respectively, the pulleys b^{1} *f* and b^{11} *d*.

This is an ideally perfect combination, as all the elements are necessary, and the mechanical action of each is blended with that of the others so as to produce that unit of action which we call a belt drive.

I have grouped two elements, the counter shaft and its pulleys in the first element, as stated. So also in the fourth the rolls *c e* and their belts. These may be separated in the analysis, and then the combination would be made up of eight elements. But this is a mere matter of fancy, the elements are the same.

WAS THE COMBINATION NEW?

Even the defendant's professional expert, Mr. See, does not venture upon an explicit statement, that any prior machine included the elements of the combination claimed.

On the contrary, when asked in his examination in chief, q. 15, p. 125, "As to driving (by) belt exclusively, is or is not the Gray patent the first exposition? Answer—It is not. Goriwoda's mill was driven entirely by belts, and so also in the numerous examples in Mechwart's Austrian patent."

And so the examination goes on as to elements and subcombinations, and counsel refrained from asking explicitly whether the combination as a whole is new.

N. B. Goriwoda's German patent, referred to in the answer quoted and in many others, was not issued until long after Gray's invention was in use in this country (as stated by Mr. Smith in rebuttal, on page 90), and it was dropped out of this Record by stipulation of counsel, p. 283, as being immaterial.

The Mechwart Austrian patent, p. 189, is the only entire belt drive shown which can be applied to a double roller mill, and referred to by Mr. See, which antidates Gray's invention.

I will revert to this patent presently. The Davario Italian patent is for a mill with three rolls in vertical plane, driven by a rope drive which, under no conceivable circumstances, could be applied to a double roller mill of the kind used. And I don't remember that Mr. See claims that it can. In fact, it was not in evidence when he was under examination as to Gray's patent, but was put in after the Odell patent (which was withdrawn at the hearing) was taken up, on pp. 115, 127 and 128. It was, however, retained by defendant's in this Record, when most of those patents put in with reference to Odell were omitted by stipulation, on pp. 281, 282. But in the absence of any proof connecting it in any way with Gray's patent it will not be considered.

Bishchoff vs. Wethered, 9 Wall, 812.

Nor if it were can it be said to disclose Gray's invention.

Beyer's French patent, p. 174, shows a mill with a single pair of rolls (Figure 11), to which no reference is made in his specification. As well as I can make it out from the exceedingly imperfect drawings, one roll is driven by belt from the line shaft, and a counter shaft is driven in the opposite direction by a *crossed* belt, and the other roll is driven in the same reversed direction by an open belt. It in no respect resembles Gray's, and it is not pretended that it does. In Figure 1 there are shown two pairs of rolls, one above the other; one of each pair is driven by an open belt, and the other roll of each pair by friction gears.

Jesse M. Smith, p. 85.

I quote Mr. See's conclusion in regard to the Beyer patent, principally as an illustration of his method of dealing with facts, so as to present an entirely false impression by the use of phraseology which

is literally true. He says, p. 119: "We therefore have, in the Beyer French patent, a double roller mill, working on the differential plan, and driven by friction, no teeth gearing being employed. The entire transmission, beginning at an assumed driving shaft, involves the use of but two belts, neither of which is a cross belt. A cross belt is one which is given a cross twist to drive a shaft in a contrary direction."

"Driven by *friction*," true, but driven by friction *gearing*, which operates precisely like the toothed gearing to reverse the motion of the driven shaft or roll. It is not a belt drive in any sense, and is not Gray's combination, which avoids both gearing and cross belts. The friction gearing is inferior to the toothed gearing, as stated by Mr. Smith in the answer last cited.

Another instance of a belted mill is Ferguson's American patent, p. 267.

Not only is it entirely unlike Gray's (Smith p. 90), but it is dated April 29, 1879, long after Gray's invention had been put into practical use, in the early summer of 1878.

Birkholz, q 3-6, p. 57.

Birkholz was draughtsman in the milling department of Allis', and made the drawings of this belt drive, under direction of Mr. Gray, in the spring of 1878; from these, patterns were made and roller mills built, which were sold to Kern, of Milwaukee, about two months later. The date of the order is stated by Mr. Gray, from the order book, as June 14, 1878, and all the roller mills made since have contained the same belt drive.

Gray, p. 47.

The only other roller mills with a belt drive are those of Mechwart's Austrian patent, pp. 189, 192, 193.

As this is the only prior instance specifically referred to by the Court below in their opinion, p. 271, it deserves separate consideration.

Mechwart's Austrian Patent of 1875.

This patent and its accompanying record teaches us several important facts.

Mechwart signs himself "Mechwart, Mp., Director of Ganz & Co.'s Machine Foundry."

He occupied, therefore, in a well known mill furnishing establishment in Austria, a position similar to that held by Gray in the American house of Allis & Co.

He was the inventor of the best roller mill Gray saw in Europe (Gray, q. 39-40, p. 48), and on which U. S. Patent 252124 was taken out, December 20, 1881. P. 270.

The same machine is shown in Defendant's Exhibit Die Muhle, 1875, pp. 171-172, and in Defendant's Exhibit Pappenheim, pp. 172-173, and in Figure 5 of the Austrian patent. Mechwart is, therefore, a man presumably capable of organizing a belt drive suitable for his own machine as he made it, and as Gray saw it in Buda Pesth in 1879, six months or more after he had put his own belt drive in operation in Milwaukee. And Gray says that one of its grave defects was its

gear drive. So that clearly Mechwart had not put a belt drive on his own machine in 1879 when Gray visited the shops of Ganz & Co., in Buda Pesth, and the mills in the same city where the Ganz or Mehwart machines were used.

Question 36, p. 48.

This was not because Mechwart did not fully appreciate the advantages of a belt drive and the objections to a geared drive. In his specification he refers to the advantages of belt drives and the disadvantages of geared drives in the preamble, p. 189. And again, at more length, in the specification, on p. 190. I quote, in part, what he says in the latter:

"Heretofore in roller mills one roll of a pair has been driven from the other by means of spur gearing, or by means of friction caused by pressure between the rollers. The transmission of motion through spur gearing has, however, the disadvantage that through the unavoidable inequality of the intermeshing an unequal movement of the rollers ensues, which results, according to the experience, in the rapid loss of 'true' and in unequal wearing away of the rollers; besides this the disagreeable rattling of spur gearing and the rapid wearing away of the gears themselves is a disadvantage."

He then goes on speaking of the disadvantages of relying on frictional contact, and concludes: "These disadvantages the inventor has removed by his application of a belt drive to every single roller of a roller pair of a roller mill, which, according to his best knowledge and conscience, has never been employed in similar machines, and is entirely new. So that by means of such transmission of movement an equal revolution is obtained, which is impossible with spur gearing." And at the end he says that his invention may not only be applied to new machines, but also in reorganizing old ones.

Certainly there was no lack of recognition of the importance of the proposed change.

He shows his new belt drive in eight figures, which may possibly be understood, although the description is most meager.

In Figure 1 of both sheets he has a single pair of rolls driven by an open and a crossed belt from a line shaft under the floor.

In Figure 2 of both sheets a single pair of rolls, driven by an open belt, which passes up over a pulley on a one roll shaft, then down between the pulleys, and under the other, then up over a tightener pulley and down to the driver. It will be seen, as I have stated, that the pulleys must be very small, and no differential is provided for.

In Figure 4 we see two pairs of rolls that are placed one over the other, the pairs being in parallel vertical planes. The two belts can be easily followed on Figure 4. One belt goes up from pulley C, on a counter shaft, over a tightener *d*, thence down under pulley *a*, thence up between the pulleys and over pulley *b*, and down to the driver. The other belt, shown in dotted lines, is on the other end of the machine, and it drives the other pair of rolls in the same manner, passing over pulley *b*, and down between and under pulley *a*, and then over the tightener *d* and down to the driver.

This drives two rolls, one roll of each of the two pairs, by one belt,

and the other two by another belt, and larger pulleys may be used than in the case of Figure 2, because the rolls belonging to different pairs may be set further apart.

In Figure 3 of sheet 1 and Figure 3 of the other sheet (one sheet of the original drawing is divided into two in the Record) we have two rolls, similarly arranged in parallel vertical planes, with a different arrangement of belts. See Figure 3, sheet 2 (third sheet of Record). The belt (see Figure 3) passes up over a tightener pulley *d*, then to the left and over the upper pulley of the left hand pair, then over the pulley of the right hand lower roll, thence to the left and around the driver. The other two rolls are similarly driven by the belt, in dotted lines.

This gives a much better belt surface than the one previously described. But the arrangement of rolls in parallel vertical planes is unknown in practice.

In Figure 4, on the last sheet, still another is shown with two pair of rolls, but the two pairs are in different horizontal planes.

The same arrangement of belts answers for this as for that of Figure 3. One belt passes around the pulleys at diagonal corners, driving one by its inner and the other by its outer face, and therefore in opposite directions. The other two rolls are in the other diagonal corners. The arrows on the driving pulleys indicate, as the other arrows show, that there are two independent driving pulleys driven in opposite directions. The rolls can be operated from pulleys on one shaft in this as they may be in other figures.

One of these machines is also shown in the cut in "Die Muhle," p. 172. It is the one having two pairs of rolls in parallel vertical planes. While in the same cut the ordinary double roller mill of Ganz or Mechwart, with four rolls in one horizontal plane, is shown in the other figures with the *gear* drive.

There is absolutely no resemblance between these double machines and those to which Gray applied his drive. They depend upon the *diagonal* arrangement of rolls, which are to be driven by one belt in opposite directions, and no human ingenuity can twist them into such a shape as will answer for a double machine with two pairs of rolls in the same plane.

Mechwart demonstrates that this is so. He shows in Figure 4 of the third sheet, of the cuts in the Record, and in Figure 5 of the last sheet, a belt drive for his well known machine, having two pairs of rolls in one horizontal plane. He is compelled to drop his method of driving by two belts acting respectively on the diagonally arranged pulleys of two pairs of rolls in different planes. He falls back on the system of Fig. 2, and uses one belt passing over a driving pulley C, placed under the ceiling, thence down under the tightner *d*, thence up over the left-hand roll, thence down under its mate, thence up over the left-hand roll of the other pair, thence down under its mate, thence up to the driver.

Here, as in Fig. 2, we have the same small pulleys with an absence of differential and a belt exposure to the face of the pulley of less than half of the circumference, indeed an effective contact of only about one-third of the periphery.

One needs little knowledge of mechanics to see that that arrangement is absolutely good for nothing. And the testimony confirms the opinion.

Mr. Miller says, q. 50, p. 70, that he knows of no mode by which a double mill of this kind can be driven by a single belt.

Mr. Putnam had his attention called to this specific device of Mechwart's, figs. 4 and 5, and was asked if that belt drive there shown could be practically employed to drive a roller mill, and answered:

Ans.—"No; this belt motion could not be used sucessfully, as the pulley *b* on the rolls *a* are so small in diameter as to make the leverage in favor of the roll rather than of the belt, and the travel of the belt on the pulley is of such short distance that it could not contribute power enough to keep the rolls from running nearly the same speed; or, in other words, the roll is larger in diameter than the pulley, and the belt does not wrap around the pulley's circumference far enough to constitute the power necessary to establish a positive differential speed."

This is not the testimony of a hired expert, but that of a practical miller at the head of one of the great mills of the country and the owner of another.

Questions 4 to 8, p. 64.

And who is well known as a writer on milling subjects.

Question 60, p. 74.

Mechwart was undoubtedly a man of capacity and experience. His position at the head of the principal mill furnishing house of Europe, the fact that he had invented the best roller mill of its day, and the ingenious organization of other forms of belt drives for roller mills, his entire appreciation of the objections to geared drives and the need of a system of belts, all demanded of him a solution of the problem as to how four rolls in plane could be driven, that being the style of machines he made, and other styles shown in his 1875 patent never having been built, so far as we are informed. In other words, Mechwart had to invent a system of rolls to which his belt drive could be attached, but could not attach his system of belts to the rolls which he actually used. The opinion of practical experts that his belt drive for the double mills was worthless receives most persuasive argument in its support in the facts, one, already mentioned, that when Gray visited Buda Pesth in 1879 Mechwart's roller mills were still driven by gears, and another that his United States patent of December 20, 1881 (Record, p. 270), shows in Fig. 2 a full geared drive.

And this device which the inventor, under stress of a recognized necessity, could not use on his own machines was the only instance of an entire belt drive which defendants have been able to produce, after an examination, which, their answer shows, has covered the civilized world.

Is the Patent Valid?

The combination claimed was new and eminently useful. The introduction of roller mills was suspended, although its potential

capacity was recognized. With a gear drive it was inferior to the immemorial mill stone. That a belt drive would cure its fatal defect was known. We know that Mechwart had tried and failed. We know that Allis could not induce the trade to take his geared mills. We may safely assume that others had also tried and failed. The American mechanic is not a dullard.

Gray, however, succeeded, and his drive went into use by "pretty much all the mill furnishers in this country and in Europe" (Gray, q. 24, p. 46). Why did they not put on Mechwart's drive, which was disclosed in his Austrian patent and never patented here? Why is not that done now by these defendants?

But it is said that belts were old, that tightener pulleys were old, and that shafts had been adjusted, that counter-shafts were also known as means for transmitting motion from a line shaft to a machine, and that adjustable hangers for counter-shafts were known.

But Gray did not claim to be the first inventor of either of these, and defendant has been unable to show an instance in which a counter shaft has been connected by open belts with parallel shafts driven in opposite directions. If ever that reverse rotation has been provided it has been by using crossed belts, the very thing Gray sought to avoid, and by the use of which there is no difficulty. But the defendants know that with them their mills would have no sale. Mr. Gray says in the answer last quoted that "it is hardly possible to sell a machine with any other drive" (p. 46).

The breeches belt of Gavit's patent (page 254) was also known, but the idler pulley was merely designed to give greater bearing surface and incidentally to serve as a tightener. It transmitted no power, and the grindstones were driven in the same direction. Gavit's was a machine for grinding rolls, not a roller mill, nor having the movement required for one, for then the rolls must be reversed as to one another in their revolutions.

The countershaft of Gray's patent is not only a belt tightener but is also a reverser of motion. This is new, and although not claimed by itself it confers novelty upon the entire combination, and as a resultant gives to the patentee the widest application of the doctrine of equivalents, whereas patents themselves existing in disregard of the doctrine of equivalents cannot invoke it. And that is but another mode of saying that they are invalid for lack of substantial novelty. For it would be a solecism in the law to say that a valid patent covered the thing but not substantially the same thing.

It is an universal rule that a combination claimed is to be regarded as an entirety, and that novelty may be predicated of it although all parts less than the whole may be old.

I do not understand that this court has reversed its plain declaration in Parks vs. Booth, 102 U. S., 96, which so entirely fits this case that I will quote it: "Attempt is scarcely made in argument to show that any one of these exhibits embodies the entire invention of the complainant, but it is insisted that every feature of the patented improvement is found in some one or more of these publications. Suppose that is so, still it is clear that such a concession, if made, could not benefit the respondents unless they can be allowed to extend the same

comparison to two or more exhibits, as they do not contend that the entire invention is superseded by any one of their exhibits.

"Where the thing patented is an entirety consisting of a separate device, or of a single combination of old elements incapable of division or separate use, the respondent cannot make good the defense in question by proving that a part of the entire invention is found in one prior patent, printed publication or machine, and another part in another, and so on indefinitely, and from the whole or any given number expect the court to determine the issue of novelty adversely to the complainant. [redacted] vs. Buert, 101 U. S. 647. Imhauser

"Common justice forbids such a defense, as it would work a virtual repeal of so much of the patent act as gives to inventors the right to a patent consisting of old elements, where the combination itself is new and produces a new and useful result. New elements in such a patent are not required, and if such a defense were allowed not one patent in a thousand of modern date could be held valid. Nor is such a defense consistent with the regulations enacted by Congress in respect to the procedure in litigations in respect to patent rights."

Certainly this court has not set aside this fundamental law nor wrought such a dire catastrophe as it predicts upon the business interests of this country, so largely dependent upon a continued advance in the mechanic arts.

In an article which appeared in the January number of the North American Review, Mr. Gladstone, writing of this country said, "In no country, I suppose, has there been so careful a cultivation of the inventive faculty. * * * Thus it has come about that a race endued with a consummate ability for labor has also become the richest of all races in instrumentalities for dispensing with labor.

"The provision of such instruments has become with you a standing tradition, and this to such a degree that you have taken your place as (probably) the most inventive nation in the world."

That this is true is due to the fact that for so long a time we have had a most liberal patent law administered by our courts in accordance with its spirit and purpose, so as to give full effect to its provisions and so encourage inventors to strive for the attainment of perfection; not necessarily by great steps in progression, but by gradual advances by successive minor improvements all tending in the same direction.

Can there be doubt as to the consequences to follow the adoption of new restrictions and an illiberal policy? Stop the hope of pecuniary rewards as an incentive to the invention of improvements in the arts and improvements will cease, or at least be retarded. The history of mankind shows that, with them, to linger is to begin to die, and to stop is death. It is with man as it is with trees in the forest. To live they must keep their heads in contact with the sunlight. If once they are overshadowed decadence and death is inevitable.

All nations have been successively forced into the enactment of patent laws, and patent laws are unavailable if courts do not enforce them in line with their policy.

There has been a feeling, quite widely spread, that the patent office has granted too many patents for minor improvements. But this is a question, as the law stands, of purely executive discretion, given to

the Commissioner of Patents, in express terms, by the statute. Sect. 4893 provides for the examination of applications "and if, upon such examination, it shall appear that a claimant is justly entitled to a patent under the law, *and that the same is sufficiently useful and important*, the Commissioner shall issue a patent therefor." Thus two inquiries are provided for, 1st, as to the right of the applicant to a patent under the law, which is a *quasi* judicial action, and, as far as provided by sect. 4920, open to judicial review, and 2d, as to the usefulness and importance of the invention, which is a question of executive discretion. Legislation must necessarily leave many things open to the exercise of executive discretion, and in such cases it is well settled that matters so determined are not open, collaterally, to judicial review.

U. S. vs. Arredondo, 6, Pat. 691, and a multitude of other cases both Federal and State.

Such questions must necessarily be settled by the executive act. And in no case is the observance of this rule more important than in regard to patents for inventions, which enter so largely into the daily affairs of all manufacturing industries.

Although congress has not changed the law nor has its executive administration been altered, all those familiar with the matter know that the value of patent property has greatly depreciated, and the reason is that no one can say that any improvement patent will be sustained. This clearly ought not to be so. At the very best there will always be more or less uncertainty, but one acquainted with the history of the art ought to be able to assign an approximate value to it, and until within a few years this could be done with reasonable assurance.

When the validity of patents was determined upon the statutory definition of novelty and utility, as these were mainly questions of fact, there was little difficulty. But when another question was superadded, viz: what mental act was involved in the production of the alleged invention, then it became a matter of opinion, and, if the question is at all close, the wisest lawyer cannot predict the result of an action on it, for there is no determinate standard of measurement. One court never allows a patent to escape alive, another occasionally sustains one and another habitually does so. The first question therefore always is where is suit to be brought?

I very respectfully beg permission to present some considerations touching the theory that the use of the words invention, invented and inventor in the statute imposes other qualifications as to patentability than those of novelty and utility as stated in the definition of sec. 4886, R. S. I am emboldened to do so because I am sure that we are in position to judge of the results which have followed the promulgation of this theory. The shrinkage in the money valule of patent property must be estimated in millions of dollars. As a rule manufacturers no longer buy patents; it is cheaper to appropriate the invention, and the loss falls very largely upon the poor men who cannot defend themselves, and are thus deprived of almost their sole chance of earning anything beyond their daily wages.

The theory may fairly be stated to be that it is not sufficient that

the alleged invention is new and useful, but it must also be adjudged to display more than the expected skill of the calling, and more than the ordinary faculties of reasoning; it must be manifest that it required "the creative work of that inventive faculty which it is the purpose of the constitution and the patent laws to encourage and reward."

The manifest defect of this new standard is that it is itself indefinite. Its determination is based upon individual opinion, and the practitioner can only guess at the opinion another mind may form.

We can imagine a man so learned in science that his knowledge will lead him to the attainment of any end he may desire to reach. Again, a man may be so ignorant that he must invent any device he may desire to use. Certainly patentability cannot be determined by actual mental processes. The most important invention ever made, measured by results, was that of Watt, of the steam engine. Steam engines broadly were not new, nor was it new to secure movement of the piston in one direction by atmospheric pressure, brought into action by condensing the steam in the cylinder to create a vacuum. What Watt did, was to make another chamber alongside and place a valve between the two and draw the steam from the cylinder to the chamber and there be condensed by jets of water without cooling the engine cylinder. Not a thing of all this was new, cylinders, and pistons, and valves, and chambers, and water jets, and pumps were all old, and therefore it would be very easy to decide that all this was merely the result of the expected skill of the engineer and therefore not patentable.

So Morse's telegraph was merely the use of a long circuit wire as a means of communication, short circuits were known, galvanic batteries were known, circuit breakers were known, electro-magnets were known, armatures and levers and springs were known, the mere attachment of these old devices to a long circuit wire was a mere difference in degree, and therefore it may be said there was no invention in the Morse telegraph, any electrician could do it—after it had been done.

In short, after a thing has been done, and all the elements are collected and exhibited with the accomplished work, any of us can see that the latter only required the expected skill of the adept.

We must go back to the old question.

What is Invention?

The word has two very different applications.

Primarily it means something found out, and the verb signifies to find out.

A secondary meaning extends to an operation of the mind, creative in its character, and analogous to the poetic or artistic faculty.

The question as to what the words "invented or discovered" and "invention and discovery" mean, as they are employed in sect. 4886, R. S., will be determined by reference to art. 1, sect. 8, clause 8 of the constitution of the United States, which gives to congress power "to promote the progress of science and the useful arts, by securing for limited terms to * * inventors the exclusive right to their respective * * discoveries." The words must have been used by con-

gress in executing the power in the very sense in which they were employed in the constitution in conferring the power.

What was in the mind of the framers of the constitution was the patent system of England, which was, I think, the only patent system then in existence, and had been sustantially adopted in the legislation of several of the colonies; the rights of such patentees were preserved in the act of 1793.

And when they employed the word "inventors" and "discoveries" they undoubtedly had in mind their established legal significance as understood and employed in the laws of England.

The right of the crown to grant patents for monopolies in the practice of trades existed from time immemorial. The were granted by the Saxon kings and by the Normans after the conquest. The gross abuses increased so under Elizabeth that the courts interfered to draw the line of distinction between legal and illegal monopolies, the former being confined to cases "where any man by his own charge or industry, or by his own wit or invention, doth bring any new trade into the the realm," and all others were held void.

Darcy vs. Allin (A. D. 1602), Noy, 173.
The Clothworkers of Ipswich Case, Godbolt, 252.

This distinction was accepted by parliament in the act 21, Jac. 1, A. D. 1623, which took from the king all power to grant patents of monopoly, excepting, Sect. VI., "Any letters patent and grants of privilege, for the term of fourteen years or under, hereafter to be made of the sole working or making of any manner of new manufactures within the realm to the true and first inventors of such manufactures, which others, at the time of making such letters patent, shall not use."

This was an act declaratory of the common law as it had been judicially declared, not new legislation except as in restraint of a practice already held to be illegal. With the growth of the arts the number of patents to inventors multiplied, but never has it been held there that the term "inventors of such manufactures" limited the right to a patent to those who had mentally conceived and brought forth a new invention, but on the contrary it was held from the time of the decision in *Edgeberry vs. Stephens*, A. D. 1691, down to the present time, that patents might be taken out for any manufacture new in the realm, and therefore patents on communication have been, and are still, granted. In fact, until the recent act of parliament, no oath of invention was ever required, and it has been always held that first inventor in England was the first who applied for a patent.

Edgeberry vs. Stephens, Holt and Pollexfer, J. J., 1 Web., 35.
Walters vs. Bateman, 1 Web., 613. Crosswell J.
Lamenandes Patent, 2 Web., 164. Lord Brougham.
Wirth's Patent, L. R., 12 Ch., 303, where it was held that a patent might be taken out by a non resident alien on a communication made to him by another non-resident alien.

The framers of our constitution, in accepting the words of the English patent law, adopted them with their known significance, and no man at that day had ever heard the word inventor or inventors used in connection with the patent laws in a sense limited to those who had created by an act of the mind a new thing. He was the first inventor

who first brought the knowledge of a new manufacture into the realm by taking out letters patent therefor.

The U. S. patent laws have from the beginning imposed a much more limited restriction on the right to take out patents. The generality of the term "manufactures" was limited by specific classification, and the grant further conditioned upon absolute novelty as to all the world by knowledge or use, anywhere under the acts of 1790 and 1793; and by act of 1836, and all subsequent revisions thereof, by knowledge communicated anywhere by patent or printed publication, or by use in the U. S., foreign use not affecting the right of one who was an original inventor.

But while this limitation was imposed, it was done by the express terms employed in describing what kind of invention might be patented, and in recognition of the evident fact that without this restriction the words "invented any new and useful art, machine," etc., would have included any which were for the first time brought into the country by the patentee precisely according to the established legal significance of the word invented, as it had been and was then employed.

In *Earle vs. Sawyer*, 4 Mason, 1, 1825, Story, J., says: "It must be new, and 'not known or used before the application,' that is, the party must have found out, created or constructed some art, machine, etc., or some improvement in some art, machine, etc." This shows that the word invented was still understood in its primitive sense of "found out."

See also Earle vs. Sawyer, 4 Mason, 1, and
Crane vs. Price, 1 Webs. Pat. Cas., 393.

The point I seek to establish is, that the words invented, invention, and inventor were not words of limitation, imposing additional requisites upon the plainly and independently expressed conditions—their then legal signification including not only those who newly created, but all those who introduced new arts or improvements thereon, without reference to the sources of their knowledge, if only such knowledge was exclusive as to this country.

In the course of years the significance of the word invention, etc., has greatly changed in the United States, though the original legal significance has been retained in England, until, in popular usage invention has come to represent an original creative act of the mind, followed by a patent or other disclosure. But most certainly changes in the sense of words in common use will not work corresponding changes in the significance of those words as used in the constitution or statutes. As long as the law remains in force, the words continue to mean just what they were intended to signify by those who made the law.

If courts may assign new meanings to old words in a constitution or statute, then laws may be modified by other authorities than those duly constituted by the people, and that cannot be while our free institutions remain intact.

We answer then the question: What is invention? by saying that as employed in the English law before our revolution and in the constitution, the word signified something patentable under the law, which

has been found out, and for the first time brought to the knowledge of the people of the country in the appointed manner.

The State of the Art.

It has already been shown that of actual anticipation of the claim, as it stands, there has been offered absolutely no evidence whatever.

A mass of material has been put in evidence to show the state of the art at the date of the invention of Gray. This is allowable as an aid to interpretation, but like other extrinsic aids they may properly be used only when there is some ambiguity to be cleared up. But in this case the claim is entirely clear and needs but to be read. It is, we think, within the scope of that which might have been claimed, but that is of little practical importance as the limitations are equally binding whether necessary or volunteered.

I will not go into an elaborate examination of these patents, but content myself by reference to Mr. Jesse M. Smith's clear and reliable analysis of them, p. 86.

There seems, from the correspondence in the file of Gray's application and the argument of counsel for defendants below, to be an impression that a patent cannot be founded on an organization of belts. I may say in reply that the statutes make new and useful combinations patentable and indicate no exception as to any class of mechanism.

But Mr. Gray does not claim any belt drive. His claim is for a mechanical combination in which belts appear with other elements. Belts are scarcely more common than levers or cams or set-screws, yet all these figure in combination claims. True, every mechanic knows their functions, but the same is true as to all other mechanical powers. Levers and cams modify motion or force and they never, under any possible condition, do anything else. They play their assigned part in a combination, but that part is inevitable and unmistakable, and their contribution to aggregate result makes them, properly, elements of the combination which represents the sum of the results of the action of the constituent parts, though each of these can only do its prescribed work. Belts are elements by which power can be transferred and the direction of motion regulated. They are not patentable in themselves nor in any of their *known* combinations, but a new combination does not fail of patentability because belts appear with the other elements to make up the entirety, which alone is patentable when the elements are old.

The Decision Below.

It is impossible to anticipate all the arguments which counsel may suggest, so we must deal with the opinion of the court (p. 273) as presenting the theory upon which the invalidity of the patent is to be insisted upon in this court by counsel.

They start out with a statement that Gray supposed himself to be the first to apply belt drives to roller grinding mills, which, they say, was not so, nor, they add, was he the first to use an entire belt gear.

If he was mistaken we are better informed, and all that we claim is that while others had tried and failed he first succeeded in making a practical drive for the only organization of rolls the trade have generally adopted.

They then refer to the Mechwart Austrian, and describe at length one of his organizations of belt drives, which was for rolls in two parallel planes, which nobody uses, or ever has used, or is likely to use, and overlook the evident fact that Mechwart himself could not apply this drive to four rolls in one plane, and had to contrive a radically different plan, which is worthless, and not applied by himself to his own machines. But this has already been discussed, and we pass on with the suggestion that the only importance in that reference is to demonstrate the value, the difficulty, and the success of Gray's invention.

Then they take up the state of the art as evidenced in all sorts of machines in which belts, counter-shafts and belt tighteners had been used, although it will be found that in nearly all the cases cited in which shafts were made adjustable, it was for some other purpose and without reference to belt tightening. It is not said that any of these cases anticipated the combination covered by Gray's claim, nor that in any of them there was disclosed a counter-shaft with open belt, which was at once a reverser and transmitter of motion, much less that such a counter-shaft had also been adjustable, so as to act as a transmitter of reversed motion and a belt together. Nor, still more broadly, was it said, nor can it be said from the evidence, that there had ever been an instance in which an open belt had been used to transmit motion in reversed direction from one driving shaft to another driving shaft parallel with it. The actual invention is broader than the claim. It is not the usual case where the claim is broader than the invention, and therefore necessitating a restricted interpretation, which is the usual condition where resort is had to the state of the art.

Therefore the doctrine stated by the honorable court, however sound it may be, does not apply. It is there stated "that the application of an old process, machine or device to a like or analagous purpose, with no change in the mode of application, and no result substantially different in its nature, will not sustain a patent, even if the new form of result was not contemplated." (Citing *Penna. Railroad Co. vs. Locomotive Truck Co.*, 110 U. S., 490, and *Blake vs. San Francisco*, 113 U. S., 679.)

There is no doubt as to the soundness of this proposition. A mere double use of an old combination is not, and never has been, regarded as being patentable when the new use was merely—or, as has been more strictly stated—"an exactly" analagous use. This subject is treated with great fullness and care by Robinson in his admirable treatise on the Patent Law, secs. 259 to 271.

But, to apply the rule the combination must be old, as was the case in the causes cited; in our case the combination was new, and it were wasted zeal to proceed to a discussion of the distinctions upon which, in quite similar instances, the patents have been sustained because the new use was not a merely analogous use.

The next proposition that "it is quite clear that the application of belting to drive roller mills to obviate the difficulties incident to the use of cog-gearing and to secure the advantages set forth in Gray's specification, did not originate with him, therefore, even were it conceded that this peculiar arrangement is attended with better results

than had been attained previously, still this would not sustain the patent, for the mere carrying forward of an original conception resulting in an improvement in degree simply, is not invention." Citing

Burt vs. Evory, 133 U. S., 349.

This statement, if intended to express the opinion that before Gray's invention there had been known any belt drive capable of efficient application to driving four rolls in one horizontal plane, is, as I have shown, not correct in point of fact. There were disclosed by Mechwart, methods of driving four rolls in quadrilateral arrangement, but such roller mills have never been made, or if they have they are not used by this defendant, and that method could not possibly be applied to such machines as he did use, and Gray's drive has almost nothing in common with Mechwart's device for four rolls in plane.

In *Burt vs. Evory*, this court held that the Evory and Horton patent was anticipated by a preceding patent which they held disclosed substantially the same invention. Towards the close of the opinion the learned justice, who read the opinion, stated several more or less abstract propositions, and in the language quoted, stated in brief summary, a proposition more fully elaborated in the opinion in *Smith vs. Nichols*, 21 Wall., 112. To be correctly understood it needs to be read with emphasis on the word *mere* and on the words "*in degree simply.*" Without this the condensed statement would be in direct conflict with the patent act which confers patentability upon improvements, upon precisely the same conditions and with similar effect as upon original inventions. And that this was not the purpose of the court is shown by the quotation from Justice Strong's opinion where the idea is more elaborated. As thus fully stated or even as expressed in the condensed statement, the proposition would not apply to the facts in this case, for Gray made an improvement differing more than in degree from Mechwart's. It differed in the elements and in the combination, and it overcame the recognized objections to older devices which Mechwart failed to do. Even if Mechwart had invented an effective belt drive for the double machines in common use, which I deny, Gray invented an improvement which differed in appearance, in its elements and in its results.

Then comes the final proposition which few, if any, patents now escape: "The combination set forth in Gray's first claim evinces only the exercise of ordinary mechanical or engineering skill, as the same has been defined by the Supreme Court and illustrated by so many recent decisions of that tribunal." And then they cite *Hollister vs. Benedict*, 113 U. S., 59, and others.

I have already taken the liberty to present my reasons for holding to the ancient faith so strongly maintained by Mr. Justice Story in *Earle vs. Sawyer*, 4 Mason, 1, and which has governed the course of judicial opinion in England for centuries, and in this country until within the last six years, that "the law looks to the fact and not to the process by which it is accomplished. It gives the first inventor or discoverer of the thing the exclusive right, and asks nothing as to the mode or extent of the application of his genius to conceive or execute it." This is the language of that great jurist, and it has given me

courage to ask this honorable court, before turning over the administration of the patent law to the proposed appellate tribunals, to review these expressions, and re-establish the law upon its ancient foundations.

I must, however, consider my case in view of the proposition stated, which is undoubtedly founded upon expressions found in opinions read in this court, although it will be found upon an examination of them that in few, if any, was such doctrine necessary to the result reached, and in these the expressions employed are not necessarily anything more than a paraphrase of the ancient rule that alleged inventions, in order to be patentable, must be substantially different from anything before known.

In attempting to consider the issue in the light of the principle announced, your honors will see how difficult it is for one at the bar to deal with a test so shadowy as that involved in the inquiry: What is ordinary mechanical skill, or the expected skill, or that is required by any of the phrases which have been employed in stating the proposition?

We know, absolutely, that Mechwart, director of the leading mill furnishing house of Europe, inventor of the best known roller mill, tried to adapt a belt drive to the mill he made for his company and failed, and his machine failed to give satisfaction; and this was at least in part the case, because it could not be driven except by cogged gearing. We know that Beyer, of France, got up a half belt drive, supplemented by friction gearing, but we don't know that any one ever used it. Certainly the trade did not accept it as a solution.

We know that Mr. See was compelled to rely mainly on Goriwoda's patent, taken out in Germany long after Gray's invention went into use here. That he rested it in Fitzgerald, U. S. patent, April 29, 1879, nine months later than Gray's sale and public use.

We know that the trade wanted a roller mill, but found nothing they would generally, or otherwise than experimentally, accept.

We know that the problem was a complicated one, for which no existing organization was, even approximately, fitted.

We know that what stands as an entirely new mechanical movement was embodied in the combination.

Gray testifies, q. 25, p. 47, that it required invention on his part to produce it.

We know that it was instantly accepted as the solution of a difficulty which had held the introduction of roller mills in abeyance, and that it was immediately and generally adopted with or without his license, and that it went into almost universal use.

If such a case does not involve *any* patentable invention, then, as was said in *Parks vs. Booth*, cited, not one patent in a thousand of those currently issued from the U. S. Patent Office is valid. Such a gross abuse of executive authority, amounting to a stupendous fraud upon the public by the continued grant of invalid patents could not escape the attention of congress, to which the law requires the commissioner to report directly; nor of the president, whose constitutional duty it is to "take care that the laws be faithfully executed." But no expression of dissatisfaction with either the law or its administration comes from congress or the president. Writers and speakers,

both at home and abroad, refer, with admiration, to the inventive faculties of our people as evidenced in the issue of patents. Complaints come from infringers, from grangers who denounce the patent system, while they owe to patented machines the ability to work their farms with profit. Just now the labor demagogues are denouncing, not the patent system, but, going behind it, the use of labor saving machinery. Conservatism repeats itself and reappears on new occasions with its ancient ideas; and so Jack Cade is reproduced in the Powderlys of to-day.

The case of Gray is unlike any of the references. This patent is for a machine, and covers a combination of great complexity requiring much thought to resolve the difficulties which had arrested all previous efforts, the machine was eminently useful and instantly accepted; it was not disclosed in any previous patent or printed publication, had never been known or used before his invention in this country (nor any where else), the inventor had not abandoned his invention nor forfeited his right by public use for more than two years. In short, Gray's patent is valid under the statute, and under the most stringent rulings that have ever been made thereon by this court.

Infringement.

The court not only holds the patent invalid, but not infringed; and this conclusion they reach by passing from the claim to the specification, where they find reference to "swivel boxes," and these they find from the language of the specification and the testimony of Mr. See to be indispensable, and therefore to be part of the combination claimed, by implication as well as by force of the words "as shewn."

It may be admitted that to raise or lower belted pulleys on the opposite ends of a shaft requires some freedom of play in the parts; if the requisite motion is slight, it may be adequately met by merely using loose boxes on the shaft bearings; if greater play is required than can be thus attainable, it may be and is attained by either rocking boxes or a flexible shaft. All these methods are equally familiar, and Mr. Smith testified that the counter-shafts of Gray's and defendant's machines are mechanically identical (p. 22). The sole object of the use of universal couplings in the latter being to provide for the vertical adjustments of the ends of the counter-shaft independently without strain.

The opinion attributes to Mr. See, testimony which is "direct and convincing," that "this swiveling feature is indispensable." If by this swiveling feature is intended the swiveling boxes of Gray's machine, as set forth, and that no other swiveling device could be used in that machine, then I very respectfully submit that Mr. See is very careful not to commit himself to any such statement which he knew would be readily refuted; it is not his method. He knew that flexible shafts were quite as common as flexible boxes, and used for the same purpose precisely. In Webster's dictionary in the definition of "universal joints," more commonly called universal couplings, the familiar method of making a shaft flexible is described and illustrated by cuts of single and double joints, where the two parts of a shaft are set at an angle and the power transmitted from one end of the

shaft to the other. This is so familiar as to come within that common knowledge of which the courts will take judicial cognizance. *Brown vs. Piper*, 91 U. S., 37; *Terhune vs. Philips*, 9 Otto, 592; *King vs. Gallum*, 109 U. S., 99; *Phillips vs. City of Detroit*, 111 U. S., 604.

Familiar instances will be found in all machines where portable powers are applied to drive machinery, as for instance, in all threshing machines driven by portable engines intended for use in the fields on irregular ground, where it would be difficult to place the power in direct line with the driving shaft of the machine, resort is had to what are commonly called tumbling shafts, and the same purpose is accomplished as in these machines, viz., that power may be transmitted without binding in the journals. The same thing is done by the same means in portable saw mills. Another familiar instance in which the highest degree of flexibility is required is in the dentist's engines, where the connection between the foot lathe and the dentist's drill, file or burnisher permits the tool to be turned in any direction. This is done by a coiled wire used as a driving shaft and protected by an india rubber tube to permit of its being conveniently handled. These are of the very elements of mechanics.

All that Mr. See says (pp. 124–125) amounts to merely this that *both* swivel boxes and a swiveling shaft cannot be used in the same machine. But he was careful not to say, and counsel were careful not to call upon him to say, that either might not be resorted to when the object was to prevent binding in the boxes. And both may be dispensed with when the amount of movement is so small that binding in the boxes may be prevented by simply making the cap to fit loosely on the box or bearing.

Where a greater amount of movement is contemplated, that binding can be prevented either by making the box to swivel or by forming the shaft with flexible couplings. There must be flexibility somewhere, but it is entirely immaterial whether it is provided in one or the other element.

The court refers to the use of the words "as shown" at the end of the claim as though they might be considered as imposing a limitation to the specific devices. But such proposition is not sustained by any authority, and, in the few cases in which the matter is mentioned at all, the courts have uniformly held that the words substantially as described, or as described, or as set forth, are unnecessary because the reference they make to the description is always implied and relates only to the essential features of the invention as therein delineated.

> Mitchell vs. Tilghman, 19 Wall., 287.
> Lorrilard vs. McDowell, 2 Ban. & Ard., 531, which was decided by McKennan, J.
> Betts vs. Menzies, 10 H. L., cases 117.
> 2d Robinson on Patents, Sect. 517.

The words "the described" must be construed not solely with reference to the words in the specification, but with reference also to the drawings of defendant's machines, which are opposite page 205 of the Record.

His is a roller grinding mill of the same style as Gray's, viz., with four rolls in the same plane and containing—

1. A counter-shaft with pulleys at both ends, viz., one pulley at one end and two at the other end.

2. It has independently adjustable bearings at each end, and these are vertically and independently adjustable. Gray made his adjustments by a set screw on which each bearing was sustained. Defendant made his by a lever on which a bearing was sustained. Both are within the terms of the claims.

3. It had the rolls C E, which were alternate rolls of the double series, viz., one of each pair.

4. The pulleys *c e* on the roll shafts having a belt N precisely like Gray's, which connected them with the counter-shaft, driving it in a reverse direction.

5. The rolls D and F; also alternate rolls, and the other rolls of the two pairs, which are arranged in horizontal plane precisely like Gray's limitations in the context of the claims.

Shipley, J.: Pearl vs. Ocean Mills, 2 Ban. and Ard., 469.

The decision in *Phœnix Caster Co. vs. Spiegel*, 133 U. S., 360–369 (cited below), held that the complainants' patent, considered in relation to the state of the art, was for a combination of elements, one of which, viz., "a rocker formed collar bearing," was entirely omitted in defendant's castor, nor was any equivalent for it substituted. I am unable to see how that affects the question of infringement in this case.

It is contended by complainant that the defendant used, in identically the same combination as that of Gray's first claim, "a counter-shaft provided with pulleys at both ends and having said ends mounted in vertically adjustable bearings."

It has not been denied that the defendant's machine has a counter-shaft answering precisely to this language.

6. The two belts R and S connecting the pulleys *d*, *f* on the shaft of roll D F with the pulleys b^1 b^2 on the counter shaft.

The infringement is that of absolute mechanical identity. The claim applies just as well to defendant's machine as it does to Gray's. The identity is in function as well as in element.

Absolutely the only change made was to substitute a tumbling shaft with rigid boxes for a rigid shaft and swiveling boxes, neither being absolutely necessary if the requisite play, always required to make any adjustment in any machine, is otherwise provided. In this same machine of Gray the set screws T were used to adjust the ends of the roll horizontally, by advancing or withdrawing the two ends independently, but no provision is made for flexible boxes, because the usual play of a shaft in its boxes was sufficient. So in defendant's Exhibit Daverio's patents the pulleys J were hung on a shaft which was independently adjustable at each end to tighten the belts, but neither a flexible bearing or a flexible shaft is provided.

So also in defendant's Exhibit Kingsland and Ferguson saw mill the upper shaft is vertically and independently adjustable at each end, but there is neither a swiveling box nor a flexible shaft. In the face of their own evidence it would have been scandalous if Mr. See had testified that "to the practical working of the described device as a belt tightner this swiveling feature is indispensable." The honorable court, in attributing

that statement to him, does injustice alike to his mechanical knowledge and to his skilful use of words so as to be understood to mean what he is very careful not to state explicitly. It is not essential that the boxes shall be swiveling, and even if it were essential that flexibility should be provided for beyond the usual free-play of the shafts in their boxes, the patentee having shown one means need not include that specific means in his claim, nor even refer to a mere common incident of construction in his claim, when various modes of accomplishing the same end were familiar.

If the tumbling shaft was an improvement it might be made an element in a patent for a new combination, but that would not avoid the patent on which the improvement was made if it still employed the previously patented combination.

But there is no reason to believe it was better. Freischmidt says that Gray's drive was generally introduced into other roller mills, q. 54, p. 41, and that in the practical operation of the Gray roller mill he never had any trouble whatever in keeping the belts on the pulleys when the counter shaft was adjusted.

Question 57.

Mr. Putnam says that in the practical operation of the Gray drive he has never encountered any difficulty in keeping the belts on their pulleys, and it can be used also to train the belts so that they will travel in their proper course.

Putnam, q. 26, p. 69.

These able and experienced men were ignorant of a pretended defect which originated in the brains of infringers and their retained expert, and, so far as we are informed, never had an existence otherwise.

Gray was familiar with universal couplings and their use on shafts, as a means for preventing binding in the bearings, and he, presumably, adopted the swiveling bearing because he knew it would answer the purpose, as it did. The pretended distinction is a mere fancy and is a distinction without a difference.

There is no pretense of any betterment other than preventing the running off of the belts, and Gray's belts don't run off.

The Disintegrator.

Gray proposes to use a cylinder on the counter-shaft to break up lumps. Defendant's expert testified as to the effect of the adjustment of the cylinder which might be used for disintegrating the reduction, and that the adjustment of the shaft would interfere with its use. Mr. See's testimony on this point, q. 14, p. 125, is presented in his usual insincere and deceptive manner, when he referred to the necessity of always maintaining the cylinder and its shell concentric, he left unnoticed the provision made for the vertical adjustment of the shell as well as the cylinder. Gray's spn., p. 2, line 22.

But this is a matter of no importance. The disintegrator forms no essential part of the roller mill, its use is optional and as a matter of fact it is not used.

If the adjustment of the shaft interferes as suggested with the use of the cylinder, the cylinder in no way interferes with the shaft, and whether on or off will make no difference in the construction of the first claim.

The Patent Office File.

Another matter magnified by counsel is the evidence contained in the office file of Gray's application.

For very many years the Circuit Court refused to receive these files, on the ancient and universal doctrine relating to grants and contracts in writing which speak for themselves, and are not to be modified by evidence of what was said or done during their negotiations.

Westlake vs. Carlton, 6 Fish., 519.
Hoe vs. Kohler, 12 Fed Rep., 111.
Howes vs. McNeal, 17 Blatch., 396.
Pope vs Brown 1 Holmes, 20
Cahoon vs Ring 1 Cliff., 592.
Goodyear Dent Vul. Co vs. Gardner, 3 Cliff., 408.

In *Goodyear Co. vs. Davis*, 102 U. S., 222, this court held that the construction they put upon the patent was upheld by the avowed understanding of the patentee, but they add "we do not mean to be understood as asserting that any correspondence between the applicant for a patent and the commissioner of patents can be allowed to enlarge, diminish or vary the language of the patent afterwards issued. Undoubtedly a patent, like any other written instrument, is to be interpreted by its own terms."

I do not understand that there is anything ambiguous in this claim nor that there is any necessity for construing it more narrowly than its terms literally imply, under the rule *ut res magis, etc.*

The practice of putting in evidence the patent office file has become very common under the assumed authority of this court, but it will be found that in such cases the office action has merely been accepted as an epitome of the state of the act, itself proved in the case independently, or the admissions of the applicant have be accepted as an estoppel against some construction sought to be put upon the claim broader than its expressed terms, so as to cover what he had impliedly disclaimed by erasing a claim made to that effect.

But in this case we make no such attempt, but expressly admit that we must stand on the combination as it is stated in the claim. We ask no more than the application of the universal rule that a claim for a combination is not avoided by the use of all the elements or the substituted equivalents of any of the elements named.

Referring, however, to the file, we find that in the original application the first and second claims were for fewer elements than were incorporated in the first claim as it stands, it being in fact, made up by adding together the elements of both the first and second original claims.

It will be seen, however, that the rejection of the first and second claims was founded upon a general statement that "the claims are for no more than the common arrangement of belting. As such it is shown in Carr's patent, December 4, 1877, No. 197719." The exhibits elaborately collected in this case by defendant show that this broad

statement of the examiner is not true as to even those claims. Carr's patent, the only specific reference made, is in evidence, p. 263. It was a threshing machine; the fan shaft was driven in a reversed direction by a crossed belt on one side shown in Fig. 2, and also drove belt N^1 on the same side by another crossed belt and from a pulley on the other end drove two other shafts by an open belt. (N. B.—These belts, N^1 N^2, could not possibly have been driven as indicated by the arrows.) This fan shaft, even if accepted as an equivalent of Gray's counter-shaft, was reversed in its movement by a crossed belt. The reversal of movement was obtained in the usual way by using a crossed belt, the avoidance of which was the very object of Gray's invention and one of the main things which commended it to the millers. Any one who sees fit is at perfect liberty to use crossed belts to reverse the motion—or any other possible means except the specific combination covered by Gray's first claim. There are belt systems now in use which do not infringe this claim but they are junior inventions.

I have discussed all the objections made in the record to the validity of Gray's patent, and the issue of infringement. If other questions should be raised by the learned counsel who will present a printed argument in this case, I must rely upon the court to investigate the soundness of such new theories, as I cannot anticipate them and shall not know what they are.

Was the Term of Gray's Patent Limited by the Foreign Patents which he took out?

In the answer there was set up two patents in the name of Gray, one taken out in Germany for 15 years, and subsequently forfeited by nonpayment of the annual tax.

This is disposed of by the decision of this court in *Pohl vs. Anchor Brewing Co.*, 134 U. S., 381.

The other was an Austrian patent (Record, pp. 193, 194), which appears by the register, which is admitted as evidence of what it contains to have been for the "original allowed term of one year," and to have been extended for a 2d, 3d, 4th and 5th year, and then allowed to lapse.

Stipulation, p. 237.

It was this issue which was thought by counsel for complainant to be the main contest in this case.

The court below, in a supplemental opinion, decided this point in favor of complainant.

This question, which remains to be discussed, is one of very great importance, not only to these parties, but to the public at large. For now about twenty years, the condition of many very important American patents has been involved in utter uncertainty. It is only the more important patents which, as a general rule, are patented abroad by American inventors who have also taken out patents at home, or are in process of doing so. The decisions in the circuits have generally been adverse to the interests of the American patents, and others have acquiesced in such rulings by abandoning any attempts to maintain them.

Several of these decisions have been reversed in this court; but the important question as to whether patents taken out abroad upon domestic inventions, while an application was pending here, came within the purview of sec. 4887, has never been passed upon in this court. In the cases decided, this court has contented itself by holding that the term of the patent continued to the time when the bill was filed, leaving open the question as to when the term would actually expire.

As that question is raised in this cause, and the proofs and admission clearly present it; and as the solution of the uncertainty, which yet prevails, is most important to the public, involving, as it does, the term of many valuable patents, the court is most respectfully asked to permit its presentation more fully than is absolutely necessary to the mere determination of the question whether this patent was still in force at the time of filing the bill. As I understand, it is the constant practice of this court to pass upon questions of general public interest, when fairly presented, in order to settle them; and that the public may not be disturbed by uncertainty. And when it is remembered that almost the entire manufactures of this country rest upon patents, covering either their plant or its products, and of what importance confidence, as to their rights and their duration, is, in encouraging full development, it will not be doubted that the public interest demands that these questions may now be set at rest.

I desire to argue three positions:

1. That sec. 4887, R. S., does not in terms apply, and never was intended to apply to patents taken out in the United States upon inventions made in this country by citizens thereof.

2. That if it applies to patents on any such inventions, it does not apply to patents issued upon applications previously filed in the United States Patent Office, and there pending at the time when foreign patents were issued for the same invention.

3. That Austrian patents, although appearing upon their face to be issued for a shorter term, are according to Austrian law, patents for the full statutory term of fifteen years, the time expressed being merely that to which the annual tax has been paid before the patent issued.

The facts of this case are briefly these:

Wm. D. Gray, a citizen of the United States, residing in Milwaukee, Wisconsin, made an invention of a belt drive in 1878, which was put into practice in that city in that year. That on the 2d day of May, 1879, he filed his application for a patent thereon, and duly prosecuted the same, until on June 8, 1880, the patent in suit issued to him for the term of seventeen years.

That after the filing and during the pendency of that application a patent issued in his name in Austria, viz., on the 17th of December, A. D. 1879, for the same invention. This Austrian patent was taken out by J. W. Troop, of London, Eng., at his own expense, paying the government fees, Mr. Gray paying nothing. Gray, Q. 102 to 110, p. 56. It was not necessary for Mr. Gray to execute any papers, in such cases the whole work being done by the attorney.

That the Austrian patent was expressed to be for one year.

That the tax was paid for five years and no longer.

The Austrian law is contained in Abbott's patent law of all nations, p. 15, vol. 1 and this is admitted by stipulation on page 238.

It appears by the official certificate from the ministry of commerce, page 236, that by terms of Austrian law the patents are all for fifteen years' continuous term, provided the patentee pays the annuities, and that when one or more years are named in connection with the grant this only implies that the fees have been paid for so long, but the actual term is by no means touched upon.

The construction put upon sect. 4887 has this incongruous effect, that if an inventor will permit the free foreign use of his invention he may have an United States patent for seventeen years. But if he limits the foreign use by patenting it there, his American term will be cut down to the term of the foreign patent if issued before he received his patent here. In other words, the law punishes the American inventor for patenting his invention abroad, but encourages the dedication of his invention to free foreign use.

The United States statute permits the inventor to put his invention into public use or on sale for not exceeding two years before making application for letters patent. He may, of course, continue the public use during the pendency of the application, unless he forfeits his right by too great delay, and finally have a patent for the full term. Cummings' patent was granted for the full term after a delay of nine years in the patent office, and was sustained in *Smith vs. Goodyear Co.*, 3d Otto, 486.

But in most foreign countries any use in public, or patent in another country, or published description before patented there, is an absolute bar. Consequently, if our people want to secure foreign patents they must forego that privilege of public use which our statute permits, for if one machine, or even a printed description of it should get into that country, it is fatal. His application may be delayed by interferences and other causes wholly beyond his control; but still, if he takes out foreign patents he may be curtailed of his American term, and, if he does not keep his invention an entire secret all that time, he may lose valuable foreign rights. The injustice of this provision, as it has been construed, is strongly presented to congress by the present commissioner of patents in his annual report, which has just been published. He shows how under it the American inventor is deprived of the advantages of the "International Union for the Protection of Industrial Property," and I respectfully ask the attention of this court to what he there says.

I respectfully submit that to impute such a purpose to the congress is not to be permitted unless the clear language of the act forbids any other and more intelligent construction.

"The reason of the law should control the strict letter of the law, when the latter would lead to palpable injustice, contradiction or absurdity."

1st Kent Com., 462.

Sect. 4887, R. S., reads as follows:

"No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of

its having been first patented or caused to be patented in a foreign country, unless the same had been introduced into public use in the United States for more than two years prior to the application. But any patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent; or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years."

The proper understanding of this section will be facilitated by a reference to prior legislation which led up to it.

There has been a distinction between domestic and foreign inventors and inventions in all the United States patent laws since 1793. Patents were not allowed to aliens under that act. In 1800 the right was conceded to alien residents for more than two years. In 1832 it was extended conditionally to those who had declared their intention.

Under all these acts any knowledge or use, domestic or foreign, before application filed was fatal to the right to a patent.

Under the act of 1836 citizens and aliens were alike permitted to have patents, but the latter were charged higher fees and held by a condition to work within 18 months.

Under this act foreign use was not fatal to an original American inventor who had no knowledge, but was fatal to a U. S. patent to an alien, whether he knew of it or not.

5th opn. of Atty Gen., 21.

The bar to patents on inventions already patented abroad, which had been absolute, was by section 8 of the act of 1836 limited to foreign patents more than six months old at the "filing of the specification and drawings."

Under that act the right of the inventor was determined by conditions which existed at the date of application and was unaffected by subsequent changes.

By the amendment of 1839 the six months limitation was taken off and the condition substituted that the invention had not "been introduced into public and common use in the United States prior to the application for such patent."

And this contained the further proviso that every such patent shall be limited to the term of 14 years from the date of publication of such foreign patent.

Under sect. 6 of the act of 1836 the knowledge or use which barred a patent must have been prior to the *invention*, unless the invention had been in public use with the consent or allowance of the applicant prior to the application, while by sect. 1 of the act of 1793 knowledge or use prior to the *application* was a bar.

Section 15 relieved the patentee from the effect of mere foreign use prior to his invention if he believes himself at the time of application to have been the first inventor.

Under the act of 1836, as prior foreign use was never a bar to a patent unless accompanied by proof of knowledge, it became the accepted construction, both in the patent office and in the courts, that parol proof of foreign inventive acts could not be taken, but inventive

acts done in the United States were admissible to establish the date of invention by the terms of the statute.

The standing rules of the patent office provide for a preliminary statement (rule 111), which in the case of domestic inventions, included the date, 1st, of conception, 2d, of drawings made, 3d, of a model, 4th, of disclosure to others, 5th, of reduction to practice.

But, in case of foreign made invention, the same rule requires the statement, 1st, that the applicant made the invention, but without any statement of date when made; 2d, whether it had been patented, and, if so, when and where, giving the number of each patent; 3d, whether or not the invention had been described in a printed publication; if so, when and where, giving the title, place and date of such publication; and 5th, whether or not the invention was ever introduced into this country; if so, giving the circumstances with the dates connected therewith which are relied upon to establish the fact.

These statements are in the nature of pleadings, not evidence in themselves, but limiting the scope of the evidence.

Under this practice it came to be the established construction of the patent law that the date of domestic inventions could always be established by parol proofs, but foreign made inventions could not be carried back of the date of the application in the United States Patent Office, unless an earlier date could be proved by an earlier foreign patent or printed publication, showing an earlier invention by appli cant. And, as a consequence, no instances can be found in which parol evidence has been admitted to prove an earlier date for a foreign-made invention than that of the foreign patent, nor even any instance reported in the court cases where counsel have offered such proofs, although there are cases in the reports of patent office cases, which may be found in Robinson on Patents, sec. 603, n. 5, and sec. 382 and notes, where such evidence was offered and rejected.

With this state of the law in mind, the intention of sec. 4887 becomes more apparent. The section must be read as a whole, and considered in reference to the entire act of which it forms a part. Much of the confusion of ideas upon the subject has arisen out of the fact that exclusive regard appears to have been had to the last half of the section, as though that were the entire provision to be considered, instead of treating it as a whole.

"No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been first patented, or caused to be patented, in a foreign country, unless the same had been introduced into public use in the United States for more than two years prior to the application."

This language is copied from the 25th section of the Act of 1870. There is no reference in this language to the case of an application or patent founded upon a domestic invention. Under the general provisions of the act their rights rest upon the invention, and always relate back to it, and may be established by parol proof concerning it. A foreign patent, subsequent to the date of such invention, although prior to the application, has no effect upon the right of the inventor to a patent for the same invention, proof being produced of such earlier invention. He derives no aid from the language quoted, and would in no manner have been affected by its omission.

Not so, however, with the foreign-made invention. That rests for its date upon the application, in the absence of this section; and any patent or printed publication of earlier date than the filing would be an absolute bar to the grant of a patent, and upon the production of such prior patent or publication, it would be declared invalid, because the public had already acquired knowledge of the invention, and no valid patent could be obtained by one whose rights went no further back than the application.

The grant of letters patent to alien inventors is entirely *ex gratia*, and although Congress saw fit to admit them to the privilege without exclusion as such, they also saw fit not to make provision for establishing their inventions by parol proof, which would have imposed an intolerable burden upon our own people by sending them abroad to take testimony.

If congress had omitted this section a foreign patent or publication would have been fatal to foreign-made inventions, but, instead of that stringent rule, congress permitted them to have the benefit of patents or publications relating to their invention of earlier date than the application, and they can under that provision stand on such patent or publication as the true date of their invention, but they cannot go behind it with parol proof, as may be done with relation to a domestic invention.

The section means, therefore, no person who would otherwise be affected thereby, shall be debarred, etc., and not those who would not be affected by such patent or publication under the general provisions of the law, which permitted them to otherwise establish their inventions.

And because such foreign inventors were only permitted to go behind their applications to base an earlier date upon some foreign patent or printed publication setting forth the very invention upon which they were seeking to obtain, or had obtained, a United States patent, it was reasonable and just that their rights, which rested upon their foreign patent, should expire with it.

The 25th section of the act of 1870 proceeded, after the word "application," followed by a comma, "and that the patent shall expire at the same time with the foreign patent, or if there be more than one, at the same time with the one having the shortest term; but in no case shall it be in force more than seventeen years."

This section most clearly applies the limitation of its term to the patent, which was relieved from the bar of the otherwise fatal foreign patent.

In the compilation of the revised statutes this section was altered. A period was introduced after "application" and the second sentence made to read "But every patent granted for an invention, which had been previously patented in a foreign country, shall be so limited as to expire," etc., following the language of sect. 25 as quoted. The presumption in the case of a mere revision is always against the purpose of the legislative body to alter the antecedent law.

Taylor vs. Delaney, 2d Caines's Cas., 150.
So also Kent C. J., in 4 Johns, 358.
Croswell vs. Crane, 7 Barb., S. C. R., 195.

In *U. S. vs. Bowen*, 100 U. S., 508, this court said, "when there is a substantial doubt as to the meaning of the language used in the revision the old law is a valuable source of information."

Also Meyer vs. Car Co., 102 U. S., 1.

Reading the entire section its evident intent and meaning is to allow an applicant upon a foreign made invention to obtain the benefit of the date of his foreign patent for the same invention, to avoid an otherwise fatal reference, but every patent so obtained shall be limited to expire with the foreign patent.

This construction gives effect to the section, makes it possible to understand how it got into the statute, and removes it from the imputation of injustice, which attaches to it when construed to punish the domestic inventor for attempting to benefit himself by availing himself of the monopoly offered by the more or less liberal patent law of other nations as well as of our own.

It has been said that the purpose was to prevent the continuance of a patent here after it had expired abroad. That may serve when the grant here depends on that patent. But it will not explain why the law should be so construed that a patent may issue here for the full term, if there is no restraint upon foreign use from the very beginning, and be only restricted when foreign patents have been taken out to impose a limitation upon the foreign use.

2. Should it be held that sect. 4887 applies to all inventions whether domestic or foreign, it must still be considered whether that section imposes a limitation upon patents issued after the taking out of foreign patents upon applications filed in the United States Patent Office before, and which applications were being duly prosecuted at the time when such foreign patents were taken out for the same invention.

This question has been heretofore discussed before the court, but never decided. I shall, therefore, dispose of it briefly.

The question turns upon the significance to be given to the words "previously patented." Previously to what?

Those words were not employed in sec 25, of the Act of 1870. They were interpolated by the revising commissioners presumably without any purpose to change the law. In that act the words "having been first patented, etc," were employed, and those words reappear in sec. 4887. There can be no misunderstanding as to what they mean, for they are used in immediate relation to the application, as well as to the patent if the application has gone to patent.

"No person shall be debarred from receiving a patent for his invention or discovery * * * by reason of its having been first patented." * * Those words can only apply to an *application* which was preceded by a former patent for the same invention. "Its having been patented," means the invention or discovery, "having been patented or caused to be patented in a foreign country," and, necessarily, patented by the same inventor who was seeking a patent here. This section has no relation to an invention made by a different person, although identical with the invention set forth in the United States application.

The identity contemplated must be not only of invention but of

person. For if made by another independently, it would be a bar or not, according to circumstances. If the application was on a domestic invention the reference could be disposed of upon evidence of actual invention by applicant prior to the date of the foreign patent. But, if the invention was made abroad, then, if the foreign patent was to a stranger it would be an absolute bar, if the foreign patent was issued prior to the day of filing the application. If the foreign patent was junior to the application, then no notice would ever be taken of it, for the date of application is always *prima facie*, the date of invention, and as to the foreign made invention, conclusively so in the absence of an earlier foreign patent to the same inventor and for the same invention. This is true whether the question comes up in the patent office on application, or in the court in a suit on the patent. A foreign patent taken out after application filed neither bars the grant nor would affect the validity of the patent.

Certain it is that the words employed in the first clause of sec 4887, "having been first patented or caused to be patented in a foreign country," refer only to foreign patents taken out before the application was filed here. The remainder of the section relates to the effect of such previously granted patents on the term. The first clause declares that they shall not *bar the grant* of the subsequently applied for patent; the second declares that they shall *limit the term* of the subsequently granted patent.

Even if the last clause stood alone, and is considered without reference to its context, the same ambiguity will remain, viz., to what does the word "previously" relate?

The same words "previously taken out letters patent therefor in a foreign country," occur in sec. 8, of the act of 1836. Morse took out letters patent in France on his telegraph between the date of his application and that of the patent issued to him in the United States. The 6th section of the act of 1839, contained also the proviso "that in all cases every such patent shall be limited to the term of 14 years from the date of such foreign letters patent." In Morse's United States patent there was no reference to the French patent.

It was held by Mr. Justice Grier in *French vs. Rodgers*, 1, Fish, 132, that the words previously patented referred to the application, and this court in *Morse vs. O'Reilly*, held that the terms was unaffected by the French patent, and in both that case and in *Bate vs. Hammond*, that it was not necessary that the United States patent should refer to the foreign patent.

Limitation, when it occurs at all, is implied by the law and takes effect by force of the statute, when the event occurs, and the patentee is not bound to make the limitation in express terms.

The act of 1870 was an amendatory as well as a revised statute, but made no change in this matter except to adopt the period of expiration of the foreign patent instead of its date for the commencement of the term. The revision was not intended to alter previously existing law.

Great injustice would be done American inventors by the adoption of the construction contended for by defendants. This might not be sufficient to warrant the disregard of a plainly expressed provision, but it is certainly an important factor in determining how a very doubtful expression shall be interpreted.

This construction has prevailed in the lower courts, and the patent office, following them, after a contrary construction had been established. *Ex parte Mann*, 17 Off. Gaz., 330. Under it an American patentee must elect whether he will forego the privileges given him by foreign laws to secure the monopoly in such countries before permitting his invention to be used; a privilege conceded by our laws, but fatal to his foreign rights, or likely to be so; or to take out his patent here and take the chances of losing everything else; or to take his foreign patents and submit to the curtailment of his term to the shortest foreign term. Thus he may take out a patent in Germany, France or England and still have his patent run for the unexpired term of fourteen years. But if he wants a patent in Chili he is cut down to the remainder of a ten-year term. Or if he takes a patent in Finland, to the remnant of a term of five years.

Certainly, doubtful expressions should not be construed, unnecessarily, to work such absurdities as these.

If, however, the application is held in this case as in all others, to fix his rights, he can make his application, and while waiting on the unavoidable delays he may take out foreign patents without loss.

An application is a formal declaration of right and petition for a patent. Subsequent delays may be beyond his control, and therefore it is a general, if not universal, rule in all analogous cases that the formal presentation of a claim is the date to which the right, when recognized, will refer.

In *Gaylor vs. Wilder*, 10 How., 477, this court said, "The discoverer of a new and useful improvement is vested by the law with an inchoate right;" and, on general principles, that right becomes vested when the inventor has complied with the requirements of the law.

It may be laid down as a general rule that when a government grant is dependent upon an initiatory act the right attaches when the act has been performed, and the party will not be permitted to lose by the delays of the government.

And this doctrine has been applied to patents for inventions.

Jones vs. Sewell, 6 Fed. Rep., 343.

In *Stark vs. Starr*, 6th Wall., 417, it was said, "The right to a patent once vested is treated by the government when dealing with the public lands as equivalent to a patent issued. When, in fact, the patent does issue, it relates to the inception of the right of the patentee as far as may be necessary, to cut off intervening claimants."

And it has been repeatedly said that patented inventions were property entitled to the same protection as other kinds.

Brady vs. Atlantic Works, 10 O G., 762.
Seymour vs. Osborne, 11 Wall., 533.
Cook vs. Ernest, 2 O. G., 89.

In judicial proceedings the subject of inquiry is the right of the plaintiff at the date when his proceedings were instituted.

And it is said, "Whatever the legislative power may be, its acts ought never to be so construed as to subvert the rights of property unless its intentions so to do are expressed in such terms as to admit of no doubt, and to show a clear design to affect the object. No general

terms * * * ought ever to be so construed as to divest a vested right."

Rutherford vs. Green, 2 Wheat, 203.

3. If this section 4887 applies to this case there remains the further inquiry, WHAT WAS THE TERM OF THE AUSTRIAN PATENT?

The court below held that Gray's patent in Austria was for 15 years, and its forfeiture for non-payment of the annual tax did not involve the expiration of the term of the United States patent.

The following is copied from my brief filed in the court below:

The official certificate referred to is printed on pp. 236 and 237 of the Record.

Extracts from the Austrian patent law are also printed herewith, and are introduced under stipulation cited.

WHAT IS THE TERM OF THE AUSTRIAN PATENT.

By stipulation of counsel the Austrian law, as printed in "Abbott's Patent Laws of All Nations," and a duly authenticated copy of any decision or opinion of the minister of commerce of the Austria-Hungarian Empire construing the same, may be considered subject to all exceptions to the materiality or pertinancy of the same.

It is the uniform rule of the Supreme Court to adopt the construction adopted by courts of the country by whose legislation the statute was adopted.

Cathcart vs. Robinson, 5 Peters, 264.

Section 4th of the Austrian law provides, par. 25, that the longest duration of privileges is fixed at fifteen years, reserving to the Emperor the right of extending that term.

Paragraph 27 provides that every patentee whose privilege has been granted for a shorter period than fifteen years ("which shorter term is to be stated in the patent, par. 9,") may claim its prolongation for one or more years within the longest period, provided they demand such a prolongation before the privilege has become extinct. To obtain such a prolongation, a petition for the same must be delivered in due time, together with the original patent, and the tax in full for the original term of prolongation, or the receipt for the same from a public treasurer.

The prolongation is granted by the minister of commerce and trades, and is officially confirmed on the letters patent.

Paragraph 29: "Privileges lose their force—

"1. By nullity or by termination (recall, surrender or decree).

"2. By extinction, which takes place—

"(a). If within one year at the latest from the date of the patent the patentee has not begun to work his discovery, etc.

"(b). If the original or prolonged term of the patent has expired.

"(c). If the privilege is surrendered voluntarily."

Section VII. relates to infringement, which may be punished criminally.

Paragraph 42: "The minister of commerce and trades alone decides the question whether a patent, from any legitimate cause whatever, is

to be considered as null and void, or as extinct. It therefore especially decides the question of the novelty of a discovery, invention or improvement; * * * finally, in contestations arising between two patentees, the ministry decides the question of the total or partial identity of their privileges."

Paragraph 43: The examination and punishment of the infringement, mentioned pars. 38 and 39, belongs, except so far as other regulations may be published in future, to the tribunal of the district in which they took place, according to the laws concerning trades. An appeal to the higher tribunal of the respective province is open for parties who feel themselves injured by such decisions. And in case of the first decision being modified before that tribunal, also to the ministry of commerce and trades. * * *

Paragraph 45: If, during the inquiry, the decision is found to depend on preliminary questions determinable by the minister of commerce and trade, such a decision must be sought for officially, and the original proceedings are to be suspended till it is obtained.

It appears from these citations that the Austrian minister of commerce has not only executive but also judicial functions, being an appellate court of last resort in patent cases, and also has the sole authority to pass upon questions relating to the term of a patent, as well as its validity. If a question touching such a subject arises in a judicial proceeeding, the case is suspended and the question referred to the ministry for an opinion, which, upon these points, is final.

An opinion of the ministry touching the construction of the law is therefore of the class made conclusive by the rulings of the Supreme Court. As the office is both executive and judicial, its official acts and conclusions in matters over which it has sole jurisdiction to decide, as well as perform, must be accepted by our courts as settling the construction of the imperial decree.

I introduce a duly certified opinion of the ministry of commerce, just how or when made we are not informed, but substantially the same opinion was promulgated as early as 1882, and published in the Official Gazette, 23d vol., p. 273:

OFFICIAL CERTIFICATE.

The imperial and royal ministry of commerce certifies herewith:

1. That according to sec. 25 of the imperial decree of August 15, 1852, No. 184 of the Publication of the Laws of the Realm, the longest term of duration for all patents granted is indiscriminately fixed at fifteen years, which longest term of duration runs on interruptedly provided the patentee fulfills the conditions mentioned in sub. 2, and this original term of fifteen years appertains to every Austrian patent granted in accordance with the imperial decree of August 15, 1852, No. 184 of the Publication of the Laws of the Realm, without exception.

2. That according to sec. 11 of the patent law it is not the duty of the patentee to pay the tax for the entire fifteen years in advance at once, but the payment of the tax in annuities is permitted.

3. That in so far as in the deed of an Austrian patent granted

according to the above mentioned law one or more years are named in connection with the statement of the grant of the patent, this reference to one or more years has exclusively the purpose of stating that the annuity has been paid in advance for one or more years, and that by such reference the actual term of the patent is by no means touched upon, this term being as above mentioned, fixed at the term of fifteen years.

4. That when the patent tax is paid by annuities, that is to say, from year to year, by such payment an extension of the patent term already originally granted according to the law does not take place, but that such payment has only to prevent that expiration of the patent before the close of the originally granted term of fifteen years, on the ground of the non-payment of the patent tax.

5. That the imperial and royal ministry of commerce, in order to avoid erroneous interpretations on the part of foreign states regarding the term of the Austrian patent, did find it expedient to alter the form of the patent deeds employed up to July, 1884, and to make use of a new form by which any doubt regarding the term of an Austrian patent will be removed.

Vienna, Oct. 10, 1888.

By the royal ministry of commerce:

[L. S.] DR. BECK, *M. P.*

[SEAL.]

Collated and found consonant word for word with the unstamped original lying before me.

Vienna, November 17, 1888 (eighty-eight).

IGNATZ R. v. FILLEBAUM.

[SEAL.] *Imperial Royal Notary.*

The authenticity of the above signature of Herr Ignatz v. Fillebaum, sworn imperial notary in this notarial district is hereby certified.

By the imperial royal presidency of justice.

Vienna, Nov. 17, 1888.

[SEAL.] HEINRICHS.

The authenticity of the above signature is hereby certified.

Vienna, Nov. 19, 1888.

By the chancellory of the imperial and royal ministry of the seal of the imperial house and of the exterior Konradsheim.

This opinion establishes the proposition that Austrian patents are all for fifteen years, and defeasable by failure at the proper intervals to pay the established tax. Such patents have always heretofore been held to limit the United States patent only to the time to which the patentee has a right to keep his patent alive. The courts below distinguished between the cases of patents which were, on their face, for the full term, though defeasable on the non-payment of the tax, as was the case with English and French patents, and those where the patent on its face was for the short term and extensible as a matter of course, on the payment of a further tax.

As I understand the opinion in *Bate vs. Hammond*, it went beyond the mere holding that the United States patent remained in force because the Canadian patent had been extended and kept in life, but, further, that the right to renew the Canadian term made the patent *prima facie* one for the full term. The court, after reviewing the Canadian statute, says: "Therefore the Canadian patent does not expire, and it could never have been properly said that it would expire before January 9, 1892," that is, before the expiration of fifteen years from its date, although, on the face, granted for five years, as the court distinctly noticed in a preceding part of the same paragraph. If it never could have been said properly, then it was true at the grant of the patent, and from its date up to the time of the actual extension, as well as afterwards.

This view of the effect of the Canadian statute upon the Canadian patent for five years is precisely in accordance with the opinion of the ministry of commerce as to the similar terms of the Austrian patent and Austrian law, holding that the patent is really one for the full term, although, on its face, for a shorter one, because the law gives to the patentee the absolute right to continue the patent for the full term at his own option.

One other defense is set up in the answer, viz., that because this complainant had not been engaged in manufacturing roller mills before suit brought, it had no standing in a court of equity.

The complainant company was organized August 7, 1886 (Record, p. 231.)

This bill was filed May 16, 1887 (page 1.)

Complainant acquired title to the Gray patent in suit September 7, 1886.

It is agreed on page 135 that the complainant company "had not manufactured or entered upon the work of manufacturing roller mills under the patents owned by it, but have granted licenses to divers parties to manufacture under its patents, and that the company was organized and the entire stock is owned by four firms or companies extensively engaged in manufacturing mill work.

As owners of the legal title to the patent complainant is the proper party to sue for infringement either at law or in equity.

It appears by stipulation, p. 27, that the testimony was entitled in a case in the Northern District of Illinois, but might be read in this case, and in another in the Eastern District of Michigan.

In view of these facts it follows that complainant had a right to proceed in equity to enjoin infringement, so as to bring the trade under such control that it could manufacture under its patent with a reasonable expectation of profit.

And because it is alike its privilege and its duty to protect its licenses in the limited monopoly which the patent confers.

Freese vs. Swartchild, 35 Fed. Rep., 141.
Hussey vs. Whitely, 2 Fish, 120.

It is in proof in the testimony of Gray and Frieschmidt, already cited, that Gray's belt drive went into general use. This was by parties who were either licensees or infringers. If the former it is our

duty to protect them, if the latter it is our privilege to ask a court of equity to enjoin them. Certainly it will not be urged that eight months after we acquired title was an unreasonable time to take in the preparation for our suits, in view of the vigorous character of the defense which we had reason to anticipate and have assuredly encountered.

R. MASON,

Of Counsel for Appellant.

JAN 8 1891
JAMES H. McKENNEY,

Supreme Court of the United States.

OCTOBER TERM, 1890.

No. 1,486.

THE CONSOLIDATED ROLLER MILL CO.,

vs.

R. R. WALKER.

BRIEF FOR APPELLEE.

ROBERT H. PARKINSON,
JOSEPH G. PARKINSON,
Of Counsel for Appellee.

Robert Clarke & Co., Printers.] [*January, 1891.*

SUPREME COURT OF THE UNITED STATES

October Term, 1890.

The Consolidated Roller Mill Co.

No. 1,485.] *vs.*

R. R. Walker.

BRIEF FOR APPELLEE.

STATEMENT.

This is an appeal, taken in behalf of the complainant below, from a decree of the Circuit Court for the Western District of Pennsylvania, dismissing the bill of complaint. The bill of complaint charges infringement of two patents relating to roller mills. The first of these patents was granted to William D. Gray, June 8, 1880, as No. 228,525; the second to Udolpho H. Odell, April 13, 1886, as No. 339,927. The validity and infringement of both were put in issue by the answer. After defendant's evidence was in complainant abandoned the Odell patent, and the controversy is now confined to the first claim of the Gray patent, there being no charge of infringement under the other claims of that patent.

The answer denied the validity of the patent, charged anticipation and want of patentability, and alleged that

the patent had expired before this suit was commenced, and before the act complained of, by reason of the expiration of an earlier Austrian patent and an earlier German patent granted to the same patentee for the same invention; denied that complainant had sufficient title to maintain the suit; and denied that complainant had any cause for relief in a court of equity.

The hearing was before Judges McKennan and Acheson. They concurred in finding that the patent was anticipated, that the subject-matter did not involve invention, and that defendant's mill did not infringe, even if the claim in controversy were to be sustained. The court concluded its opinion by stating that these issues being decisive of the case, it deemed it unnecessary to consider the other grounds of defense, and ordered a decree dismissing the bill of complaint.

After this opinion was filed complainant's counsel requested the court to express its opinion upon the issue relative to the effect of the earlier foreign patents relied upon as limiting the term of the American patent. The court thereupon filed a supplemental opinion holding that, notwithstanding the earlier Austrian patent was granted for one year, and, after being several times extended, had become extinct by the expiration of the last term for which it was granted, the American patent did not expire with it, because, under the Austrian law, the patentee could have continued the Austrian patent in force for a longer term.

As the opinion before filed was conclusive of the case, its subsequent opinion on this point, which would in nowise affect the decree, is in the nature of a moot opinion, and appears to be due to the assumption that the review on appeal was limited by the opinion of the court below rather than by its decree, and that affirmance or reversal would depend upon whether the reasons assigned for the decree were adopted rather than upon whether the decree was supported by the record.

It is insisted in behalf of the appellee that the decree

was right, and that the several defenses pleaded in the court below were individually sound and conclusive.

Complainant is not, and never has been, engaged in manufacturing, using, or selling the machines in controversy, or machinery of any kind. It does not appear to have ever had any business except the maintainance of patent litigation. The sole object of its incorporation is "to purchase and acquire United States and foreign Letters Patent relating to roller milling—holding, selling, licensing, and otherwise dealing in such patents." (*See Articles of Incorporation, p.* 229.)

The defendant is not a manufacturer or dealer, but has purchased, for his own use, roller mills constructed under and in accordance with the Obenchain patent of January 19, 1886, No. 324,460.

The Gray patent here sued upon has once before been in litigation. Prior to the organization of the complainant company, Edward P. Allis, who was one of the organizers of the complainant company (*see pp.* 230–231), brought suit on this patent and two other patents granted to the same patentee in the Circuit Court for the District of Wisconsin. The novelty and patentability of these patents were there attached. The case was argued for complainant by Benjamin F. Thurston, of Providence, R. I., assisted by Mr. Rainey, of Chicago. The court held that in view of the prior art the patents did not cover any patentable invention, and dismissed the bill. The complainant appealed to the Supreme Court, and perfected its appeal. Shortly before the case was reached for hearing in this court the counsel for the present complainant (which had meanwhile been organized) appeared and dismissed the appeal. The pleadings and decree in that case, and the written notice to counsel of the grounds upon which the decree was rendered, written by the presiding judge (Judge Bunn) simultaneously with the entry of the decree, are here in evidence. The answer in that case substantially admits infringement, but, while pleading the invalidity of the patent, denies that the defendants "have used or are now using any roller grinding mills or ma-

chinery embracing any improvement or parts of improvements in or to which the complainant has any valid or vested rights." (Rec., p. 214.)

The decision of the court proceeded solely upon the ground of want of patentable novelty.

(*See Pleadings and Decree, Allis* v. *Freeman, Notice of Decision by Judge Bunn, and Stipulation, Rec., pp.* 208–218; *also, Proceedings on Appeal, pp.* 222–224.)

The complainant had therefore, while the present suit was pending and undetermined in the Circuit Court, an opportunity to take the opinion of the Supreme Court directly upon the question of the validity of this patent. The expense of carrying the case to this court had been incurred; the time for hearing was close at hand; the issue of patentability was sharply presented, substantially unembarrassed by any other question. It elected to dismiss that appeal and acquiesce in the adverse decree of the court below rather than hazard a judgment of this court which would terminate litigation upon this patent.

It has been urged below that the announcement of the conclusions of the court in that case being in the form of a letter to counsel can not have the weight of an opinion. If this letter was disconnected from any act of the court in its official capacity there might be force in the objection, but it is simultaneous with the entry of the decree of which it is simply explanatory. In its absence the pleadings would leave little or no room to doubt the ground upon which the court acted. It confirms the inference to be drawn from the pleadings.

In *Russell* v. *Place*, 94 U. S. 606 (particularly 608), the Supreme Court has recognized the propriety of showing by extraneous evidence the issue on which a general decree turned, and the informal oral expressions of judges in announcing a decision and ordering a decree are frequently reported and referred to as indicating the considerations which controlled their action. A written notice to counsel, contemporaneous with the entry of the decree, is certainly more satisfactory evidence for the same purpose. It is not a mere letter of a judge unassociated with a judicial act, but derives its significance from the fact that it an-

nounces a conclusion on an issue judicially before him, and that it is acted upon by a judgment of which it is explanatory.

It will be noticed that much of the testimony in the record pertains to so-called Gray inventions which have no relation to this controversy. This is due to the fact that the same depositions were taken for use in suits upon the Gray patent 222,895 and the Gray patent 238,677, both of which have, since the submission of this case in the Circuit Court, been held invalid by Judge Blodgett in *Consolidated Roller Mill Co.* v. *Barnard & Leas Manufacturing Co.*, reported in 43 Fed. Rep. 527; the first of them having before been held invalid by Judge Bunn in *Allis* v. *Freeman*, sustained by Judge Brown in *Consolidated Roller Mill Co.* v. *Coombs*, 39 Fed. Rep. 25, and considered by Judge Gresham in *Consolidated Roller Mill Co.* v. *Richmond City Mill Works*, 40 Fed. Rep. 474.

Between the years 1875 and 1880, the Hungarian system of milling (using roller mills instead of mill stones, a gradual reduction system instead of an immediate reduction, and a complicated system of purifiers that had become identified with the gradual reduction) was being rapidly introduced into this country. Its introduction was accompanied by the patenting here of many features of roller mills which had before been patented abroad. This may have been in part due to the fact that mechanics in different countries would naturally apply the same expedients to meet the same conditions, without knowledge of what the other had done, but it is probable that the importation of European milling literature, the exhibit of foreign mills made at our Centennial Exposition of 1876, and the foreign travel of American millers and mill builders, all have contributed to this result. Gray, the patentee, testified in cross-examination (p. 55, x-q. 91) that

"the introduction of the purifiers in this country in the manufacture of flour, about 1871 or 1872, necessitated the grinding of the wheat upon the stones by a system of gradual reduction, which system was also imported from

Europe. The most advanced miller at Minneapolis, which is the center of the hard wheat country, thought that wheat could be reduced by this system of gradual reduction, by the use of rollers, better and more economically than by the use of mill stones. After trying it this result was found to follow, and then all the millers adopted the system."

Also in the next answer that this was before his invention.

One of complainant's witnesses, Freischmidt, testifies in cross-examination (p. 43):

"*X-Q.* 22. How old is the Hungarian system of roller milling, do you know?

A. I think when I heard of it it was in 1876.

X-Q. 23. It created a good deal of stir in this country from that time to 1878 or 1879, did it not?

A. Yes, sir."

Complainant's witness, Putnam, testifies in cross-examination (p. 77):

"*X-Q.* 85. Was not the Hungarian or Buda Pesth system of roller milling known of in the United States many years before rolls were introduced here?

A. It was known here that rolls were being used in the manufacture of flour for many years, but whether as a complete system or not, I have no knowledge."

Complainant's expert, Smith, is asked in cross-examination (p. 103):

"*X-Q.* 23. Were not two pairs of rolls arranged in the same horizontal plane used in this country for grinding flour before the date of Gray's invention?

A. I think they were. I correct this answer by saying that I do not know. I supposed the question referred to a patent instead of a mill for grinding flour.

X-Q. 24. I will put the question in another form. Did the arrangement of two pairs of rolls in the same horizontal plane for grinding flour originate with Gray?

Counsel for complainant, to save time, concedes that two rolls in the same horizontal plane, as well as two pairs of rolls in the same horizontal plane, were in use before the date of Gray's invention.

A. It did not."

The patent on its face recognizes the very mill to which the belt drive was applied by Gray as one already generally known.

WANT OF NOVELTY AND PATENTABILITY.

The pretended invention here in controversy relates solely to the substitution of belts for cog gear as the means of imparting rotation to the crushing rollers of a roller mill, with the usual incidents of such substitution, namely, the employment of a counter shaft and pulleys for transmitting power and tightening the belts. The recital at the head of the specification indicates that the precise organization to which Gray applied this driving agent was old, so that the points at which the belts were to be applied, and the direction of rotation, were mechanically predetermined. The specification says:

"My invention relates to that class of mills in which horizontal grinding rolls, arranged in pairs, are employed; and the invention consists in the arrangement of belts and pulleys for communicating movement to the rolls, and in other details hereinafter described in detail."

The "*arrangement of belts and pulleys*" described by him, consists in substituting pulleys on the roller shafts for the cog gear which had before been applied at the same point for the same purpose, and in passing the belts around these pulleys, with the usual intervening counter shaft and pulleys to transmit the power and tighten the belts. This had long been a common method of applying the belt drive to any machinery in which several shafts were to be rotated. The counter shaft was not only a common expedient in mechanics, for transmitting power to the driven parts of machines and at the same time for tightening the belts and reversing the direction of power; it had long been applied to roller mills for identically the same purpose, the direction of the belts and arrangement of the pulleys being varied according to the position of the rolls to be driven and the direction and speed to be imparted to them.

The two most familiar methods of applying power to rotating shafts, either of roller mills or of any other ma-

chinery in which a rotary movement is required, are the belt drive and cog gear, respectively. These have been for generations as familiar substitutes in mechanics as rivets and screws. Each has certain recognized advantages and disadvantages. The cog gear affords the more positive power, with some economy of space. The belt causes the smoother movement, with less jar or tremor. The common method of transmitting power laterally of the pulleys is a counter shaft carrying pulleys in line with the pulleys upon the shaft, to which rotary motion is to be imparted. It has long been a common expedient to make this counter shaft adjustable for the purpose of tightening the belts. The usual method of reversing the direction of power imparted by the belt is either to cross the belt or to carry it around an intermediate pulley. The usual method of changing the relative speed of either of the driven parts is to change the relative size of the pulleys.

When Gray entered the field he had before him a roller mill already organized, with the direction of rotation of its several parts, and the points at which the power to rotate them was to be applied, all predetermined. The rollers were before driven sometimes at uniform and sometimes at differential speed, that is, one roll of the pair driven faster than the other roll of the same pair. The advantages incident to the substitution of belts for cog gear as a means of rotating the shafts were perfectly familiar in mechanics and had been specifically described in connection with roller mills. In making the substitution Gray had simply to mount his pulleys on the ends of the shafts, in lieu of the cog wheels which had before occupied that position, and transmit power to these pulleys through the ordinary counter shaft, pulleys, and belts, in such direction as to impart the same rotation to the shafts as had before been given them, employing the usual means of tightening the belts. This is all that he did. He introduced no new agent and got no new result. He exercised only the commonest measure of mechanical intelligence in the application of the usual mechanical means for applying this old driving power to an old machine.

The claim in controversy is:

"In a roller grinding mill, the combination of the counter-shaft provided with pulleys at both ends and having said ends mounted in vertically and independently adjustable bearings, the rolls C E, having pulleys connected by belts with one end of the counter-shaft, and the rolls D F, independently connected by belts with the other end of the counter-shaft, as shown."

It is preceded by the statement:

"I am also aware that shafts have been made movable in such manner as to tighten belts passing over pulleys on other shafts, and I lay no claim thereto."

His patent seems to have been granted under the impression that he was the first to apply belt drives to roller mills. It was repeatedly refused by the Patent Office on the ground that this was not patentable, and was only allowed under limitation of the claim to features which this defendant does not use. The exhibition of the prior art made in the present record abundantly demonstrates that what the Patent Office supposed to be novel was old in its application to roller mills, and that the comparative advantage of the belt drive in roller mills, as distinguished from cog gear, had before been stated in terms so similar to those used by Gray as to suggest a strong suspicion of plagiarism on his part.

This application was allowed before the series of decisions by this court which have so emphatically distinguished between patentable invention and mere mechanical modifications involving the use of ordinary intelligence and skill in applying known means to their customary ends, and at a time when it was the practice to allow patents for every thing that could, by ingenuity in the use of language, be distinguished in terms from prior devices shown in the records of the office. Even at that time the claim was repeatedly refused, and the examiner seems to have allowed it only on the representation of the solicitor that it was confined to a combination in which the shaft of the

disintegrator cylinder was the means of making the adjustment of the belts, a feature not used by the defendant or anybody else, and which would render the whole machine practically inoperative.

The proceedings in the Patent Office illustrate at once the paucity of the invention and the limited construction of the claim upon which the patent was ultimately passed to issue. The statement of invention, so far as pertinent to the claim in controversy, was, as first filed (Rec., p. 154):

"My invention relates to certain improvements on the roller grinding mill for which letters patent were granted to F. Wegmann September 12, 1876, reissued July 31, 1877, No. 7,829, and it consists in the substitution and peculiar arrangement of belting to operate the rolls in place of the gearing employed in the apparatus referred to, in a counter-shaft adapted to serve both as a means of reversing the motion of the rolls and as a belt-tightener."

Then, after referring to the drawings, the specification proceeds:

"It has been found by experience that when the rolls are driven by gearing, a great deal of noise and a jarring of the parts of the apparatus and trembling of the mill floor result, and this jarring and trembling in turn cause an unevenness of operation or grinding and a rapid and uneven wear of the rolls. To obviate these difficulties and produce an even, steady motion, I discard the gearing hitherto employed and substitute therefor a system of belting arranged in a peculiar manner, to give the proper direction and speed to the rolls."

Leaving out of account the fact that the absence of jarring and trembling, and the evenness of operation, were the usual incidents of substituting belting for gearing as a means of rotating machinery, and as such perfectly familiar to every skilled mechanic, it is sufficient that this very statement with reference to roller mills seems to have been borrowed by Gray from the Mechwart Austro-Hungarian roller mill patent of 1875, hereafter more specifically referred to. Gray appears to have been attracted to Buda

Pesth, the home of Mechwart, before applying for any patents on roller mills. He had just returned from a visit to the mill furnishing houses there, when he filed this application. While he claims to have made the invention before going there, the journey at least indicates that he was already familiar with the reputation of the Buda Pesth roller mills. (Dep. Gray, p. 48, *a.* 25–36.)

The first two claims of the application, as originally filed, were as follows (Rec., p. 157):

"1. In combination with the grinding rolls and their pulleys and the counter-shaft with its pulleys, the belts N, P and R, arranged as shown and described.

"2. In a grinding mill, the counter-shaft B, mounted in adjustable bearings, in combination with the belts passing about its pulleys at opposite ends."

The Patent Office rejected this application, saying (p. 158):

"Claims 1 and 2 of this case are for no more than the common arrangement of belting. As such it is shown in Carr's patent, December 4, 1877, No. 197,719, *Threshing Cylinder Machines.*"

These claims were then amended by consolidating them into a single claim and introducing the disintegrator as an element, the claim now reading:

"1. In a roller mill the combination of the two rolls provided with pulleys, *c*, *e*, the disintegrator mounted in vertically adjustable bearings beneath the rolls and provided with pulley, *b*, and the single driving belt, N, passed under pulley, *b*, and thence over the other pulleys as shown, whereby the rolls and disintegrator are both driven from a single belt, the motion of the rolls reversed and the belt tightened upon all three pulleys.' '(p. 158.)

This was rejected, the Patent Office saying (p. 159):

"Amended claim 1 of this case offers nothing patentable, in view of the ordinary modes of applying belting as shown, the reference, Carr, showing the belt-tightener having the double function claimed by applicant. See also, Whitney's patent, March 14, 1794, *Brakes* and *Gins; Saw Gins.*"

The application was then amended by inserting in the statement of invention after the words "in a counter-shaft adapted to serve both as a means of reversing the motion of the rolls" the words "*a means of sustaining and driving a disintegrator*," so that the whole clause should read:

"In a counter-shaft adapted to serve as a means of reversing the motion of the rolls, a means of sustaining and driving a disintegrator and as a belt-tightener" (p. 160).

Immediately before the claims was inserted the following admission:

"I am aware that various devices have hitherto been employed to regulate the distance between the rolls, in order to govern the fineness of the material delivered from them; and I am also aware that shafts have been made movable in such manner as to tighten belts passing over pulleys on other shafts, and I lay no claim thereto. But I believe myself the first to construct and organize a grinding mill in the peculiar manner herein shown and described, whereby the single belt is caused to operate the various parts in the required directions, and the disintegrating cylinder caused to keep the belt tight" (p. 160).

The claims were amended so that the first and second read as follows:

"1. In a roller grinding mill, the combination of a driving belt and the disintegrator provided with a driving pulley around which the belt passes, and mounted in vertically adjustable bearings as shown and described, whereby an adjustment of the disintegrator is caused to tighten its own driving belt.

"2. As an improvement in rolling mills, the roller driving pulleys located at the top and vertically adjustable disintegrator pulley at the bottom, in combination with the single driving belt passed beneath the disintegrator pulley and thence upward and outward over the roller pulleys in the manner described and shown." (p. 160).

The action of the office on these claims was as follows (p. 162):

"Claims 1 and 2 of this case, as made by amendment of 24th ult., do not differ in substance from previously considered claim 1. They are again rejected upon the references and for the reasons already given."

The patentee had now conceded practically that his invention consisted simply in the application to a roller mill of an old means of driving and regulating the tension of the belt and reversing it, and rested his claim to invention on the fact that he was the first to substitute this for the driving gear in a roller mill, limiting it, however, to such a combination as made the disintegrator cylinder shaft serve as a means of adjustment, giving it the function at once of a counter shaft and a disintegrator shaft. The argument filed by his solicitor in this connection emphasizes this limitation. He says (p. 163):

"At the present time, all inventions in this class consist necessarily in seemingly small changes and improvements. The broad ideas, the general features of construction, are all old, but the small changes and details are of great importance, and taken in the aggregate may greatly improve and indeed completely revolutionize the action of the mill.

. . . . . .

"Of particular importance is the organization of parts by which the single belt is caused to drive the two rolls and the disintegrator."

The action of the Patent Office upon these claims, as thus submitted, was as follows (p. 164):

"Claims 1 and 2 stand finally rejected. If the limited adjustment of the disintegrating cylinder within its enclosing shell, which is permanently and rigidly fixed within the frame of the mill, is relied upon to act as the belt tightening device described, explanation is required as to how the necessary functional derangement of the cylinder and shell is overcome when such adjustment is had—it being physically impossible to secure efficient action from a toothed cylinder working within a toothed shell, said cylinder not being within the true center of the surrounding shell."

The application was again amended by inserting the following statement of invention (p. 164):

"My invention relates to that class of mills in which horizontal grinding rolls, arranged in pairs, are employed, and the invention consists in the improved arrangement of belts and pulleys for communicating motion to the rolls and in other minor details hereinafter described in detail."

Also by substituting the following claims (p. 164):

"1. As an improvement in roller grinding mills, the combination of two grinding rolls having pulleys at their ends, the intermediate counter-shaft mounted in vertically adjustable bearings and provided with a pulley, and the single driving belt passed under the counter-shaft pulley and thence over the pulleys of the two rolls, as shown and described.

"2. In a roller grinding mill, the combination of the counter-shaft provided with pulleys at both ends and having said ends mounted in vertically and independently adjustable bearings, the rolls C E having pulleys connected by belts with one end of the counter-shaft, and the rolls D E independently connected by belts with the other end of the counter-shaft, as shown.

"3. As an improvement in grinding mills, a vertically adjustable counter-shaft mounted in the base and connected by belts with each and all of the rolls separately, whereby a uniformity of motion is secured and all of the belts tightened at once."

It will be noticed that claim 2 introduced by this amendment is the claim here in controversy, which by subsequent amendment became claim 1, and the references to claim 2 in the correspondence that follows are to be read as referring to the claim now in suit.

In submitting these claims, the solicitor says (p. 165):

"We present herewith an amendment which removes the difficulty regarding the adjustment of the disintegrator. The first amended claim takes the place of the former first and second, and is shaped to correspond with the change made in regard to the disintegrator. *The second and third amended claims are the same in substance as the former third and fourth, the language being modified to conform to the*

change made in reference to the disintegrator, and we presume that they will be granted as a matter of course."

("The former third and fourth claims," here referred to, both of them recited in terms the disintegrator as one of the elements. P. 161.)

The letter proceeds to urge the allowance of the first claim, admitting in terms that "the broad idea of tightening a pulley belt by means of an outside pulley is old" (p. 165).

The Patent Office acted upon the first claim as follows (p. 166):

"Amended claim 1 of this case being for a mere and obvious arrangement of pulleys and belting, such as is substantially shown in the state of the art cited, does not offer any thing patentable. The claim, moreover, not differing in substance from the previously considered second claim, stands finally rejected."

The first claim was then canceled and the second claim, which had been referred to by the solicitor as corresponding to the limitation to the disintegrating cylinder required by the examiner and also as corresponding with the third and fourth claims of a former amendment, both of which recited the disintegrating cylinder as one element, was allowed to stand, the examiner evidently understanding the double function of the disintegrating cylinder as a disintegator and an adjustable counter shaft to be the only scintilla of invention that saved the claim.

The language immediately preceding the claim also warrants this understanding of it. Complainant is now seeking to have it sustained with a construction that makes it commensurate with the claims that were repeatedly rejected, ignores the limitation to the disintegrator altogether, and disregards the hypothesis upon which alone the office was prevailed upon to allow it. As the defendant has never used a counter shaft performing the double function, or indeed any counter shaft whatever, complainant is contending for a construction of the claim

that would disregard the counter shaft and cover broadly the application to a roller mill of the ordinary belt drive with the usual means of deflecting and tightening the belts. The office held this not to be patentable, and the present record shows that it was not new even in its application to roller mills.

It is significant that the construction shown in the Gray patent (namely the utilization of the shaft of the disintegrator as a means of transmitting power to a counter shaft and tightening a belt), is practically inoperative and has never been used by complainant or any body else. Any adjustment of that shaft to tighten the belts would disturb the necessary relation between the disintegrating cylinder and the concave against which it acts. It would not only move that cylinder to a position eccentric to the concave, which would be fatal to its operation, but would also (if the shaft was moved at one end more than at another, as would be essential to its avowed purpose), throw the cylinder and concave out of alignment and cause them to conflict with each other. The patent was evidently purely a speculative one. This inoperativeness was pointed out by the examiner while the application was pending, and the solicitors evaded the objection by suggesting that a mechanic could provide means not shown or suggested in the patent for adjusting the concave to correspond to the adjustment of the disintegrator. Whether this could be done or not the inconvenience of it would far more than offset any advantage, and it is certain that the objections to such an adjustment have been such as to prevent either the patentee or any body else from ever building a machine with the disintegator shaft used as the means of adjusting the tension of the pulleys. (*See files Gray patent, Rec. p.* 166–167.)

Gray's own statement of his invention is that the objections to the Wegmann roller mill, which he was building at the time he claims to have made the inventions, led him

> "To building a solid cast-iron frame and putting on belts instead of gear to get a more even and uniform motion of the rolls." (p. 45, a. 15.)

The drawing which he relies upon to show the date of his invention, does not show the same arrangement of belts as is shown in the patent, and he explains this by saying that he always used the arrangement shown in the drawing rather than that shown in the patent. (p. 53, a. 76.)

The claim made in behalf of Gray that what he terms his belt drive has been generally adopted, is shown by cross examination of complainant's witnesses to be entirely unfounded. Gray assumes that every belt drive, no matter how arranged, is his, but it does not appear that any body has adopted the arrangement and adjustment of belts to which his claim is limited, while it does appear that the gear mills and the mills driven by belt have continued to be contemporaneously manufactured and sold not only by different manufacturers, but by the same manufacturers, including those who incorporated and own stock in the complainant company.

See cross-examination of Miller, p. 33, a. 49–50, p. 34, a. 36–60.

Cross-examination of Putnam, p. 78, a. 97–106.

Complainant's witness, Miller, is asked in cross-examination, (p. 35):

"*Q.* 79. Does not absence of noise and jar always accompany the substitution of belts for toothed gearing?

A. 79. Yes.

Q. 80. How long have you known that to be a fact?

A. 80. About ten years.

Q. 81. I refer to machinery in general. How long have you known that a belt drive would do away with the jar incidental to gearing in any machinery?

A. 81. Fifteen or eighteen years."

The Mechwart Austrian patent of 1875 shows the belt drive applied to roller mills in a variety of ways, and to a variety of arrangements of rolls, and states specifically the advantages of the belt drive as compared with the gear drive. There is a noticeable similarity between its language

and the language of complainant's patent. Mechwart says (p. 189, Rec.):

"The arrangement invented by me has for its object an advance in the former method of driving the co-operating rollers of any particular roller mill. This end has heretofore been obtained exclusively either by the intermeshing of both rollers through the means of spur gear, or else through the naked driving of the one roller from the driven roller by means of friction produced through any pressure whatever between the rollers.

"The substance of the invention which I consider new and desirable for patent, consists in the use of belts for the driving of each single roller of a pair, in roller mills for the begetting of mill products, in any desired relation of the two co-operating rolls to each other. Heretofore in roller mills one roll of a pair has been driven from the other by means of spur gearing, or by means of friction caused by the pressure between the rollers. The transmission of movement through spur gearing has, however, the disadvantage, that through the unavoidable inequality of the intermeshing an unequal movement of the rollers ensues, which results, according to experience, in the rapid loss of 'true,' and in unequal wearing away of the rollers. Besides this, the disagreeable rattling of spur gearing and the rapid wearing away of the gears themselves is a disadvantage.

"The driving of the second roller by means of friction of the two rollers pressed together is only practical when the chop passes the rollers in very thin strata, and not in coarse particles. In case of the latter the friction will be relieved, and the driven roller be stopped. Besides this, only an equal peripheral speed of the rollers is permitted by this construction, and therefore it is not applicable when an unequal speed is desired, as, for example, in the grinding of the middlings into flour. These disadvantages the inventor has removed by his application of belt drive to every single roller of a roller pair of a roller mill, which, according to his best knowledge and conscience, has never been employed in similar machines, and is entirely new, so that by means of such transmission of movement an equal revolution is obtained, which is impossible with spur gearing.

"In the accompanying three drawings are six different arrangements, shown for different grouping of the

rollers, although I do not thereby intend to exclude every other possible arrangement."

He then proceeds to illustrate six different arrangements of the belting as applied to the roller mill, saying that these are intended to illustrate

"Only some of the different arrangements of the belt drive for roller mills without exhausting the possible variations in its application." (p. 191.)

Gray had just visited the Ganz mill in Buda Pest, of which Mechwart was director, when he returned to this country and filed his application for a patent to cover the belt drive, following in substance the language of the Mechwart patent in his statement of the invention and its advantages, and he succeeded in getting through the Patent Office without attention being called to the existence of that patent. (Dep. Gray, p. 48, a. 35–36.) It is noticeable that Mechwart had referred at the beginning of his patent to the Wegmann roller mills as those upon which he was improving, just as Gray does in his specification as originally filed. Mechwart illustrated his belt and counter shaft as applied to many of the existing mills, including both two roller mills and four roller mills. Gray applied a belt and counter shaft to one of the existing forms of mills having four rollers arranged in the manner before used by Wegmann (who built several styles of roller mills, varying in the shape of their frames and the number and relative position of the rolls), and substantially as illustrated in the Nemelka Austrian patent of 1875, the Nemelka French patent of the same year, the Lake English patent of 1877, and Die Muhle of 1875.

See Nemelka French patent, p. 180; *stipulation top of p.* 282; *Die Muhle, p.* 171.

With the exception of the Mechwart patent these exhibits illustrate the use of both belt drives and cog gear drives in the same mill. The Mechwart mill uses the belt drive throughout.

The Carr patent of December 4, 1877 (Rec., p. 263), and the Gavit patent of June 2, 1874 (p. 254), illustrate familiar applications of the belt drive with the adjustable

counter shaft applied for the same purpose to that for which Gray adopted them. Other illustrations of the vertical adjustment of pulley carrying shafts relative to each other, for the purpose of tightening the belts, are found in the *Bowen patent* of February 8, 1876 (p. 258), the *Parr patent* of the same date (p. 259), the *Sturtevant patent* of February 2, 1869 (p. 245), the *Seib patent* of August 5, 1873 (p. 250), the *Whitney patent* of May 25, 1875 (p. 255), the *Kingsland & Ferguson* saw mill, and the *Lane & Bodley* saw mill (illustrated opp. pp. 118, 119).

Mr. See testifies concerning the prior art as follows (Rec., p. 116):

"Roller mills are old and well-known machines, consisting of a pair of rolls running together, but more or less apart, and used for the reduction of material by a crushing action. In many cases, one of the rolls would be moved somewhat faster than the other, so as to produce a rubbing or grinding action. Rolls so driven were said to run at differential speeds.

"It was common in some cases to give motion to these mills by means of cog gearing, some suitable driving shafts being geared to one of the rolls to drive it, and that roll driving the second roll through further drive wheels. In other cases the first roll would be driven by a belt on a pulley on its shaft, and a second roll driven by gearing as before. In other cases both rolls would be driven by separate driving belts. In other cases both rolls would be driven by one belt from a driving pulley, the single belt engaging pulleys on the two rolls.

"A driving shaft arranged in a factory or mill for the purpose of transmitting motion to the working machines generally is termed the line shaft, sometimes the driving shaft. In many cases belts lead directly from pulleys on this line shaft to pulleys on the machines to be driven. But it is generally customary to arrange, either on or under or over the machine to be driven, a short shaft termed counter-shaft. This counter-shaft generally belongs exclusively to the given machine, and it is driven by belt from the line shaft and the machine is driven by belt from the counter-shaft. The employment of counter-shafts is almost universal in driving machines in factories and mills. It permits an arrangement of belts which will be no obstruction in the room, it permits of changes in direction and velocity of motion from a line shaft running

in a certain direction and at a certain speed, and it permits of stopping and starting of an individual machine by simply starting or stopping its counter-shaft, while the line shafts and the other individual machines remain undisturbed.

"In the driving of roller mills by belts it was sometimes the custom to drive them direct from the line shaft, and again it was the custom to introduce the counter-shaft system, the counter-shaft being sometimes arranged over the mill, sometimes under the floor beneath the mill, and sometimes journalled directly in the mill frame. This latter plan of providing an individual machine with a counter-shaft mounted directly in the machine frame has long been common in the general machine arts, and is universally followed wherever practicable in designing machines for use in machine shops, planing mills, cotton mills, etc., etc.

"In the use of belts they are cut to the proper length and the ends sewed together. When they stretch too much they are cut and sewed again. It was common to avoid the necessity of this frequent cutting, etc., by providing a tightening pulley which could be adjusted in position against the belt so as to always keep it to the proper degree of tightness. It was also quite common to arrange such tightening pulleys to be moved to and away from the belt, so as to serve as a means for starting and stopping the machine, the driven pulleys of the machine standing still when the belt was thus slackened, turning when the belt was thus tightened. Such tightening pulleys, when they did nothing but revolve against the belt to keep it tight, were termed 'idlers.' Sometimes the shafts of these tightening pulleys, in revolving, were caused to do other work about the machine. In such case these pulleys were obviously not mere tighteners.

"Sometimes the tighteners of the belts, instead of being affected by adjusting an idler or a special tightening pulley, was affected by moving bodily the driven pulleys which the belts drove, and sometimes by moving bodily the pulleys which drove the belt, the shafts of the pulleys being moved, of course, with them.

"It is important, in the use of belts, that the two shafts should be parallel with each other, or in line with each other, as is generally said. If the shafts are materially out of parallelism the belts will run off the pulleys. The journal boxes or hangers in which counter-shafts are mounted are therefore most always provided with means for inde-

pendently adjusting the ends of the shaft. The ordinary shaft hangers used in machine shops have, ever since my connection with the trade, been universally supplied with set screws by which their boxes could be raised or lowered independently.

"It was often customary to cause one belt to drive several pulleys by passing successively over them, the inside surface of the belt engaging some of the pulleys, while the outside surface of the belt engaged other of the pulleys.

"Belt driving was sometimes effected by means of cords or chains, instead of straps, grooved pulleys being often then used, in which case the matter of parallelism was not of so much moment.

"In some cases the tightening pulleys were kept under strain by automatically acting weights or springs, and in other cases by screws or the like, to be adjusted by hand.

"When, in the general machine arts, it was desirable that a shaft be shifted transversely, it was common to provide each of the shaft boxes with screws or the like, by means of which the box could be independently adjusted, and again, in cases, to connect the two screws by gearing or the like, so that both boxes could be shifted at once, by one manipulation.

"Sometimes rotary motion is transmitted from one shaft to another by means of friction gearing, a kind of tooth gearing without any teeth, driving by mere frictional contact. In such cases it was common to provide one of the shafts with adjusting screws at its boxes, so as to permit of a transverse shifting to secure a proper surface engagement of the frictional driving gears.

"Almost all machines of the crushing type require the transverse shifting of one of the roll shafts, and the art presents a large number of cases in which the two shaft boxes have independent adjusting screws for their independent adjustment, and also a large number of cases in which the two screws are geared together. Beyer's French patent, for instance, has each movable roll box provided with an independent adjusting screw, while Clark's patent No. 174,719, for instance, has similiar adjusting screws, but geared together for simultaneous action.

"In roller mills, if motion be imparted to only one roll of the pair, the other roll will tend to revolve at equal speed by reason of the frictional action of the contiguous surfaces. In this respect a pair of grinding rolls forms a pair of friction gears. Where one roll is to be moved

slower than the other, it therefore becomes necessary to apply a holding-back force upon the roll which is to move slowly. Therefore, in a differential roller mill the driving of the fast roll is really a driving, while the driving of the slow roll is really a resisting or braking.

"Double roller mills are simply two pairs of rolls arranged in one general structure and taking motion from the same driving apparatus.

"To proceed with belting illustrations: In Carr's patent No. 197,719, in figure 1, L is a fan shaft with two pulleys on its near end. This fan shaft drives by the belt M', the pulley *w'* by one of these pulleys; and its other pulley, through the belt L, drives two upper shafts at *j'* and *p*. Figure 2 shows at L' the other end of this fan shaft, provided also with two pulleys, operating two more belts, engaging two other pulleys.

"Bowen's patent No. 173,260, illustrates a belt transmission through two belts, both of which may be tightened by shifting the shaft of either pulley D or pulley H.

"Parr's patent No. 173,332, shows a belt arrangement in which the tightening shaft R^2, can have either of its end boxes adjusted independently by their independent adjusting screws.

"In Sturtevant's patent No. 86,470, see figure 4, belts are to engage the two pulleys P, both on one shaft, and both ends of the shaft are to be shifted simultaneously by means of the single adjusting screw L, 'to effect the tightening of the driving belt or belts.' I have had much personal experience with the Sturtevant machines, long prior to the date of the Gray patent.

"In Gavit's patent No. 151,485, there are two pulleys N to be driven, in the same direction, by belt from the overhead counter-shaft, and the same counter-shaft drives the pulley W below by belt X. The belt M, which drives the two pulleys, engages an intermediate tightener O, both boxes of whose shaft may be independently adjusted by the independent hand screws S.

"In Seib's patent No. 141,596, see figure 2, there is a cross shaft near the top of the machine having two belts at one end and two belts at the other end. All these belts are kept tight by the vertical adjustment of this top shaft. The two boxes, f^2, of this shaft are arranged to slide vertically and independently, and are independently adjusted to belt strain by means of self-acting weights.

"In Whitney's patent No. 163,831 two independent adjusting screws, I, serve in independently adjusting two

shaft boxes for the purpose of tightening the endless belt or apron. In this case the endless belt or apron is a single broad belt or canvass, making direct contact with its pulleys. It was very common, however, in constructing endless aprons, to form them in this manner or of separate chains or belts at each edge, united by cross slats in some cases and by canvass webbing in other cases, the independent tightening screws operating independently on the two chains or belts.

"In the two drawings, 'Kingsland & Ferguson' and 'Lane & Bodley Saw Mill,' are shown two common alternative arrangements of top saw shaft. In the Lane & Bodley case both ends of this shaft are raised and lowered by one manipulation, through adjusting screws geared together to operate simultaneously. In the Kingsland & Ferguson case these two adjusting screws are not connected, and the two ends of the shaft are adjusted by independent manipulation. I have been familiar with saw mills thus arranged for many years—long prior to the date of the Gray patent.

"In 'Beyer's French Patent' is shown a double roller mill, one pair of rolls being arranged below the other. Back of the machine a counter-shaft, *c*, is mounted in the machine frame. On the left hand end of this counter-shaft, in figure 2, are the pulleys, a tight one and a loose one, through which the shaft is to receive motion by a belt from a driving shaft. On the other end of this shaft is a friction gear, driving the fast roll of each pair, and further out on the counter-shaft is a pulley belted to the slow roll of each pair. Each journal box of the counter-shaft is independently adjustable by a set screw, the adjustment at the friction gear end being necessary to secure proper frictional contact of the gears. The adjustment of the other end of the counter-shaft would, I think, only be useful for the purpose of keeping the shaft in line, as the other end was adjusted. If the driving belt came to the counter-shaft from the left in figure 1, then this adjustment might be of use in tightening the driving belt, though such use might involve throwing the shafts so far out of line as to interfere with the proper working of the belts.

"The diameters of pulleys and of friction gears are so arranged as to produce the differential action of the rolls, the fast rolls being driven by friction gearing, while the slow rolls are driven, or held back rather, by belting.

"We therefore have, in the Beyer French patent, a

double roller mill, working on the differential plan, and driven entirely by friction, no teeth gearing being employed. The entire transmission, beginning at an assumed driving shaft, involves the use of but two belts, neither of which is a cross belt. A cross belt is one which is given a cross twist to drive a shaft in a contrary direction.

"In 'Mechwart's Austrian Patent,' quite a number of belt arrangements are shown for driving roller mills. There are three sheets of tracings, which I mark in the lower right hand corner A, B, and C, respectively, for the reason that some of the figures are similarly numbered.

"This patentee goes into a general analysis of the evils resulting from the use of toothed gearing in roller mills, mentioning the jerky action and the noise. He also refers to the fact that if one roll be driven by belt, and mere grinding friction be depended on to drive the other rolls, the desired differential action can not be gotten. The inventor, therefore, makes the entire transmission by beltings, and shows six different arrangements as examples.

"In sheet A, figure 1, there are but two rolls, the counter-shaft or transmitting shaft is placed below the mill, and belts upwardly to one roll by an open belt on one side of the mill, while it belts up to the other roll by a crossed belt at the other side of the mill. Figure 1 of sheet B shows more plainly the naked transmitting system.

"In figure 2 of sheet A there are again but two rolls, and the transmitting shaft is arranged below as before. In this case both the rolls are driven by one belt, engaging the two roll pulleys on one side of the machine, an idle pulley, *d*, being introduced into this arrangement to take the turn of the belt before it passes under one of the roll pulleys. Figure 2 of sheet B shows the naked transmission system of this arrangement. In the device of figure 1 there was no idle pulley, either as belt tightener or otherwise. Whether or not the idler, *b*, of figure 2 is to be adjustable to serve as a movable tightener can not be judged from the drawings.

"In figure 3 of sheet A the counter-shaft is mounted in the machine frame and drives by a belt at each side of the machine. This is a double mill, with two pairs of rolls, the pairs being vertical and arranged side by side. The belt on the side nearest the spectator is shown in full red lines, while the belt on the other side of the mill is shown in dotted lines; and figure 3 of sheet B shows the naked

transmission system of this mill. The belt nearest the spectator starts up at the right of the counter-shaft pulley, turns at an idler, *d*, passes to the left and around the slow roll pulley of the left hand pair of rolls, then to the right and around the fast roll pulley of the right hand pair of rolls, and thence to the counter-shaft pulley again. This belt therefore gives motion to the fast roll of the right hand pair and to the slow roll of the left hand pair. The belt at the other side of the machine is arranged in the same manner to give motion to the other two rolls of the pair. In figure 4 of sheet A is exhibited nakedly the same arrangement of rolls, etc., but the beltage is different. In this case one belt drives both lower rolls, while the other belt drives both upper rolls.

"In figure 5 of sheet C is shown a double roller mill involving two horizontal pairs of rolls, lying side by side, and the transmitting shaft, be it line shaft or counter-shaft, is arranged above and behind the machine. A single belt from this transmission shaft drives all of the rolls, and is tightened by the adjustable tightener, *d*. Figure 4 of sheet B shows the driving arrangement nakedly.

"In figure 6 of sheet C the double mill is composed of two horizontal pairs of rolls, arranged one pair over the other, and the belt driving is much like that of figure 3 of sheet A, the belt at one side of the mill driving the fast roll of one pair and the slow roll of the other pair, while the other fast and slow roll are driven by the belt at the other side of the mill. In this case, again, the counter-shaft is journaled in the machine frame, and each belt has a tightening pulley, *d*.

"In the system of this inventor we therefore have roller mills, both single and double, driven entirely by means of belts, either one belt or more; also the journaling of the counter-shaft directly in the frame of the machine; also the use of adjusting tightening pulleys."

Complainant's expert undertakes to create the impression that there is a distinction between the Mechwart arrangement of belts, pulleys, and counter-shaft, and the arrangement shown in the Gray patent, by artfully designating the counter-shaft of the Mechwart mills as the "driving shaft" of the mill, while invariably, in the same connection, designating the corresponding shaft of the Gray patent as a "counter-shaft," as if the two shafts were dif-

ferent in character; whereas the assumed antithesis is purely fictitious, the devices being the same. This expert is obliged to admit the fiction in cross-examination. He is asked (p. 107):

"*X-Q.* 55. What is the distinction between a 'main driving shaft' of a machine, driven from a line shaft, and driving back upon the machine, and a counter-shaft driven from a line shaft and driving back upon the machine?

"*A.* It seems to me that you have described the same thing in the two parts of your question."

The Circuit Court, in discussing the validity of the Gray patent, says (Rec. p. 274):

"After stating in his specification that driving the wheels by gearing occasions great noise, and also a jarring of the parts of the apparatus and trembling of the mill floor, in turn causing an unevenness in grinding and a rapid and uneven wear of the rolls, Gray adds: 'To obviate these difficulties and produce an even steady motion, I discard the gearing hitherto employed, and substitute therefor a system of belting arranged in a peculiar manner, to give the proper direction and speed to the rolls.' And he mentions, as incident to his arrangement of belting, the further advantage that, by simply removing the pulley of any shaft and replacing it with another of proper size, any desired difference in the speed of the rolls may be obtained, which, he states, can not be accomplished except by a complicated arrangement of intermediate wheels where gearing is used.

"The specification, after referring to the accompanying drawings, explains the arrangement of belts thus:

"'N represents the main driving belt, which passes to and around the pulley *e* of the roll C, thence downward and around pulley *b* of the counter-shaft B, thence upward and around pulley *c* of the roll E, and back to the source of power, imparting to the rolls C and B a motion in one direction, and to the counter-shaft a motion in the reverse direction. From the pulleys *b'b'*, on the rear end of the counter-shaft B, belts P and R pass upward and around pulleys *d* and *f* of the rolls D and F, as shown in Fig. 2, imparting to said rolls a motion the reverse of that of the rolls C E. In this way the two rolls of each set

are caused to revolve toward each other while being all driven from a common source primarily.'

"To fully understand the particular claim of the patent involved in this controversy, one other paragraph of the specification must be quoted:

"'In order to adapt the counter-shaft B to perform the double purpose of reversing the motion of certain of the rolls and of acting as a belt tightener, it is mounted, at opposite sides of the frame or body A, in boxes swiveled or hung in yokes L, sliding vertically in guides or boxes K, and adjusted up and down therein by screw rods or stems S, the swivel boxes permitting a slightly greater movement of the shaft B at one end than at the other without interfering with its free rotation, and thereby permitting the tightening of the belt or belts at one side of the machine without disturbing those at the other.'

"Gray's specification, as our quotations therefrom indicate, suggests the idea that he was the first to apply belt drivers to roller grinding mills. But the fact is otherwise, as the proofs abundantly show. Nor was he the first to discard from such mills cog gearing and friction gears altogether, and substitute therefor belt driving. Confining our attention here to Mechwart's Austrian patent, granted August 3, 1875, we find therein distinctly set forth the disadvantages resulting from the use of spur gearing in roller grinding mills, viz: the disagreeable rattling, the rapid wearing away of the gears, and the unequal movement and unequal wearing away of the rollers, and, also, the inefficiency of driving by means of frictional contact between the rolls, which latter, it is set forth, is only practical when the chop passes the rollers in very thin layers and not in coarse particles, and is not applicable when an unequal peripheral speed of the rolls is required. All these disadvantages, it is declared, are avoided by Mechwart's invention, which consists in driving both co-operating rolls by means of belts; whereby also can be obtained an equal and also an unequal peripheral speed, while the diameter of the rolls, as well as the diameter of the belt pulleys, can be varied relatively to each other for different objects. Mechwart's drawings show, as examples, six different arrangements of belting, which, he states, are intended to illustrate 'only some of the different arrangements of the belt drive for roller mills, without exhausting the possible variations in its application.' Figure 3, sheet A, shows a machine having two pairs of grinding rolls, the pairs being vertical and arranged side

by side. A shaft, mounted in the machine frame in fixed bearings, carries two pulleys, one at each side of the machine. A belt from one of these pulleys passes around a tightening pulley at the upper right-hand corner of the machine, thence around a pulley on the upper left-hand roll shaft, thence around a pulley on the lower right-hand roll shaft, and thence back to the driving pulley, and by this belt one roll of each pair is driven. From the other pulley, on the other side of the machine, a belt is arranged in a similar manner so as to drive the other two rolls of the pair. Without further description of the Mechwart system, it is enough to say that his patent disclosed roller grinding mill, single and double, with both vertical and horizontal pairs of rolls arranged side by side, driven by means of belts exclusively; his machine being equipped with adjusting or tightening pulleys, and having a shaft journaled directly into the machine frame and receiving its motion from the prime mover of the mill, either directly or by belt.

"But turning now to machinery employed in the arts generally, it is certain that the use of belt gearing interchangeably with or as a substitute for cog gearing was very old and common before Gray's alleged invention. It was, too, an old and familiar expedient to keep the belt adjusted to a proper degree of tightness by means of tightening pulleys, the shaft of which, in revolving, sometimes did other work about the machine; and shafts had been made movable in such manner as to tighten belts passing over pulleys on other shafts. It was also old and very common in machine shops and factories of various kinds to provide an individual machine with a counter-shaft mounted directly in the machine frame, the counter-shaft being driven by a belt from the line shaft and the machine by a belt from the counter-shaft. Furthermore, it was no new thing to provide the journal boxes or hangers in which counter-shafts are mounted with means for independently adjusting the ends of the shaft.

"In view of these things, then, we are unable to discover any patentable subject-matter in the first claim of Gray's patent. The case, it seems to us, falls directly within the established principle that the application of an old process, machine or device to a like or analogous purpose, with no change in the mode of application, and no result substantially different in its nature, will not sustain a patent, even if the new form of result has not before been contemplated. *Penn. Railroad Co.* v. *Locomotive*

Truck Co., 110 U. S. 490; *Blake* v. *San Francisco*, 113 U. S. 679. Moreover, it is quite clear that the application of belting to drive roller grinding mills to obviate the difficulties incident to the use of cog gearing and to secure the advantages set forth in Gray's specification, did not originate with him, therefore, even were it conceded that his peculiar arrangement is attended with better results than had been attained previously, still this would not sustain the patent, for the mere carrying forward of an original conception resulting in an improvement in degree simply, is not invention. *Burt* v. *Ecory*, 133 U. S. 349. After the most careful study of the subject, we think the conclusion is unavoidable that the combination set forth in Gray's first claim evinces only the exercise of ordinary mechanical or engineering skill, as the same has been defined by the Supreme Court and illustrated by so many recent decisions of that tribunal. *Hollister* v. *Benedict Mfg. Co.*, 113 U. S. 59; *Thompson* v. *Boisselier*, 114 U. S. 1; *Aron* v. *Manhatten Ry. Co.*, 132 U. S. 84; *Hill* v. *Wooster*, Id. 693, 701; *Howe Machine Co.* v. *National Needle Co.*, 134 U. S. 388."

In *Pennsylvania R. R. Co.* v. *Locomotive Truck Co.*, 110 U. S. 490, and in *Morris* v. *McMillan*, 112 U. S. 244, the rule, that the application of an old mechanical means to its customary purposes was not patentable and could not be made so by any ingenuity exercised in framing combination claims, was emphatically applied by the Supreme Court. In each case the specific combination claimed was confessedly new and useful; in each case the patent had been sustained below. In the latter case it had been repeatedly sustained below, and great stress laid upon the utility of the invention. In each case the Supreme Court, reversing the decision below, held the patent invalid. See to same effect:

Pickering v. *McCullough*, 104 U. S. 310.
Hall v. *MacNeale*, 107 U. S. 90.
Atlantic Works v. *Brady*, 107 U. S. 192.
Bussey v. *Excelsior Mfg Co.*, 110 U. S. 131.
Eagleton Mfg. Co. v. *West, Bradley & Carey Mfg. Co.*, 111 U. S. 490.
Hollister v. *Benedict & Burnham Mfg. Co.*, 113 U. S. 59.
Blake v. *San Francisco*, 113 U. S. 679.

Thompson v. *Boisselier*, 114 U. S. 1.
Stephenson v. *Brooklyn Ry. Co.*, 114 U. S. 149.
Preston v. *Manard*, 116 U. S. 661.
Yale Lock Co. v. *Greenleaf*, 117 U. S. 554.
Gardner v. *Herz*, 118 U. S. 180.
Pomace Holder Co. v. *Ferguson*, 110 U. S. 335.
Thatcher Heating Co. v. *Burtis*, 121 U. S. 286.
Wier v. *Morden*, 125 U. S. 98.
Hendy v. *Golden State Mining and Iron Works*, 127 U. S. 370.
Holland v. *Shipley*, 127 U. S. 396.
Crescent Brewing Co. v. *Gottfried*, 128 U. S. 158.
Collins Co. v. *Coes*, 130 U. S. 56.
Aron v. *Manhattan Ry. Co.*, 132 U. S. 84.
Burt v. *Evory*, 133 U. S. 349.
Forscheim v. *Schilling*, 53 O. G. 1737.

It would be difficult to find a more extravagant instance of a patent for applying a known mechanical agent in its customary manner to perform its customary office in an old machine than that which is exhibited in the Gray patent, unless that patent be taken as limited specifically to the use of the disintegrator shaft as the means of tightening the belts and transmitting the power. Even when so confined it is difficult to see any patentable invention in it, but thus limited it is immaterial to the defendant whether it is held valid or invalid.

NO INFRINGEMENT.

Defendant's mill made under the Obenchain patent No. 334,460, January 19, 1886, (see end of Rec.), uses a belt to communicate power to the rolls, but here the resemblance ceases, except that both correspond to the older types of roller mills having two pair of rolls mounted in the same frame.

This mill has neither the disintegrator shaft adapted to perform the office of a counter shaft and belt tightener (the organization upon which the examiner finally passed the claim in controversy), nor any counter shaft connected by belts at one end to two of the rolls, and by belts

at the other end to the other rolls, as in terms required by this claim. It has no disintegrator shaft of any kind and no shaft upon which it would be possible to mount and drive a disintegrator. It has the pulley which is used as a belt tightener at one side of the machine mounted on a short shaft which does not carry any other pulley, and which, when adjusted, does not disturb the belt or pulley at the other side of the machine as would be done in case of a counter shaft. The pulley which serves as a belt tightener at the other side of the machine is also mounted on an independent shaft. Neither of these shafts have their "ends mounted in vertically and independently adjustable bearings." Neither of them are provided with pulleys at both ends driving respectively the two sets of rolls. Each shaft is so mounted that neither end of it can be adjusted in any direction independently of the other end. Each shaft can be moved bodily up and down, but its angle to the horizon can not be adjusted, which is the object of the independent adjustment of each end of the counter shaft recited in the claim in controversy, upon which complainant's expert lays stress as a means of "steering" the pulleys, that is, setting the pulleys at any desired angle to prevent the belts from slipping off. The use of the continuous counter shaft is only practicable as a means of tightening the pulleys where the ends are mounted in swiveling bearings. The defendant's construction has no swiveling bearings. The use of the counter shaft makes it impossible to tighten the belts at one side of the machine without tipping the pulley out of proper line at the other side of the machine. Defendant's mill, by discarding the counter shaft and providing independent pulley shafts at each side of the machine, dispenses with the swiveling bearings and also with this angular displacement. Complainant's expert is forced to admit the function and capacity of the two constructions to be substantially different. He is asked in cross-examination (p. 107):

"*X-Q.* 53. In the Gray machine, if the belt or belts at one side require the pulleys to be tipped in order to 'steer'

them, and the belt at the other side does not, or if it does, require the tipping to be in a contrary direction, how do you accomplish the proper adjustment?

A. It can not be done in a Gray machine.

X-Q. 54. Can it be done in defendant's machine?

A. It can."

Power is transmitted from one side of defendant's mill to another, not through a continuous counter shaft (on which such stress was laid in the proceedings before the Patent Office), but by a tumbling fork or rod, which differs from the continuous counter shaft, both in its mode of operation and its mechanical effect, far more radical than any thing shown in complainant's patent does from the identical mill on which Gray claimed to be improving. It is the subject of the patent under which defendant's machines were built. Either method of construction enables the power to be transmitted from one side of the machine to the other, but this was done in the older mills upon which Gray claimed to be improving, and is not the subject of his patent. The question is not whether, if Gray had been the first to apply a belt drive for any purpose, or the first to organize a mill in which power was applied to the journal bearings at both sides of the machine, he could treat a different mechanical means of applying that power as within the scope of his invention; but rather whether, having applied a common expedient for its customary purpose in an old machine and escaped from the Patent Office by harping upon peculiarities of association which have not been used by himself or anybody else, he is now to have his patent extended to cover the art. In the language of his solicitors, used in urging the allowance of the patent, "the broad ideas, the general features of construction are old." It was by insisting that the patent was confined to "the small changes and details," and then treating the use of the disintegrator shaft to at once sustain and drive the disintegrator and tighten the belts, adjust the angle of the pulleys and transmit the power, as the substance of the invention, that the solicitors prevailed

upon the office to allow this claim. (*See Patent Office correspondence quoted under preceding title.*)

The court is now asked to ignore these peculiarities of organization, upon which alone the patent was allowed, and construe the claim broadly as if it covered any utilization of the belt drive to do its customary work in a roller mill where any means of transmitting the power and tightening the belt is used, some means for transmitting the power and tightening the belt being always implied in the use of a belt drive.

Mr. See thus described defendant's mill (p. 123, a. 7):

"Referring now to the Obenchain mill:

"There are two short counter-shafts, one at each side of the mill, each journalled in a vertically adjustable, non-swiveling box, carried in a pivoted lever. One of these short counter-shafts carries two pulleys, one each side of its journal box. These pulleys belt to two of the rolls of the mill. The other short counter-shaft has a single pulley engaging the belt which drives the other two rolls. The inner end of each of these short counter-shafts is forked and carries a loosely pivoted ring, and these two rings are connected by a tumbling rod forked at each end and pivoted to the rings; this tumbling rod is therefore coupled to both counter-shafts and serves as a means for transmitting the motion from one to the other. The fork and ring arranged at each end of the tumbling shaft form what is known as the universal coupling, a coupling capable of transmitting rotary motion freely from one shaft to another shaft whose axis is at an angle to the first shaft. If one of these short counter-shafts be raised, say an inch, the other counter-shaft remaining unchanged, the tumbling rod will then lie at an obtuse angle to both the counter-shafts, but the rotary motions may be still transmitted with freedom.

"Now, as to your question: The invention I find described in the Gray patent, and referred to in the first claim thereof, is a combination including, among other elements, a counter-shaft provided with pulleys at both ends and having said ends mounted in vertically adjustable boxes swiveled or hung in yokes so as to form independently adjustable bearings. I detect hardly any or no practical novelty therein in view of the prior state of the art as I have explained it; and I do not find the invention referred to in the claim in defendant's machine.

"*Q.* 8. In the Gray patent, what would be the effect of absence of the yoke-hanging system of swiveling the boxes of the counter-shaft?

"*A.* If, in the Gray patent, see Fig. 3, the boxes were solid in their forks instead of being pivoted therein so as to tilt, and then one of the boxes were lowered, the bores of the two boxes would be thrown at an angle to each other. This would cause the boxes to pinch and bind on the shaft and cut the shaft and destroy it, and also interfere with the free rotation of the shaft. In the absence of this ability of the boxes to tilt, it would be entirely impracticable to raise or lower one of the boxes more than the other. Such free hanging of the boxes is essential to their claimed function of being 'vertically and independently adjustable.'

"*Q.* 9. In the Obenchain mill, what would be the effect of introducing the Gray yoke-hanging system?

"*A.* In the Obenchain mill, see sheet 3 of 'Complainant's Exhibit Drawing of Defendant's Machine,' there are two short counter-shafts, one at each side of the machine, and each is carried in a journal box, L. Take the one at the right hand of the exhibit for instance. The box is rigidly supported so as to be always horizontal and incapable of any tipping motion whatever. If this box were hung upon yoke pivots by Gray's boxes the device would not operate for an instant even. The weight of the tumbling rod would cause the inner end of this counter-shaft to drop down and disorder the entire arrangement, and a similar disarrangement would take place with the left hand counter-shaft if it were hung in a swivel box. It is absolutely essential in the Obenchain mill that the boxes of the two counter-shafts should be incapable of tilting.

"The drawing, sheet 3, of defendant's exhibit, 'Drawing Defendant's Machine,' shows the two counter-shafts and the tumbling rod in a position they will seldom, if ever, occupy in working. In practice one of the counter-shafts will always be lower than the other.

"I here produce a rough sketch marked 'See Sketch No. 3,' showing the parts in a working position. It will be noticed that the right hand counter-shaft is very much lower than the left hand counter-shaft, but the two counter-shaft boxes are still truly horizontal, no tilting whatever having taken place. The two counter-shafts are always parallel with the roll shafts, and it is the duty of the tumbling shaft to transmit motion from one counter-shaft

to the other, no matter how much the counter-shafts may differ in vertical position.

"*Q.* 10. In the Obenchain mill, what would be the effect if the universal couplings between the ends of the tumbling rod and the two counter-shafts were omitted?

"*A.* In the Obenchain mill the right-hand counter-shaft, for instance, can be raised or lowered without affecting in any way the position of the left-hand counter-shaft. If the universal couplings between the end of the tumbling shaft and the two counter-shafts were omitted and rigid couplings substituted, no such raising or lowering of the right-hand counter-shaft could be effected. The only result of the attempt would be a tendency to bend the counter-shaft, to cramp the counter-shafts in their boxes, and to stop the machine.

"*Q.* 11. In the Gray patent, what would be the effect of cutting this counter-shaft into three pieces and introducing two universal couplings?

"*A.* If, in figure 3 of the Gray patent, the disintegrator, Z, be removed and the counter-shaft cut just within each of the boxes, and universal couplings placed at the cuts, the effect would be the same as I have described in answer to question 9. The weight of the intermediate tumbling shaft would tip down the inner ends of both boxes and produce conditions preventing any utility whatever. It is an essential, where a tumbling shaft is employed to transmit from one pulley shaft to another pulley shaft, that those two pulley shafts be so supported as to be incapable of tilting.

"*Q.* 12. In the Gray patent, can the counter-shaft be adjusted out of parallelism with the roll shafts?

"*A.* It can. The very purpose of the described construction is to permit a greater movement at one end of the shaft than at the other, and for that purpose the two boxes are mounted in self-adjusting or swivel bearings.

"*Q.* 13. In the Obenchain mill, can the counter-shafts be adjusted out of parallelism with the roll shafts?

"*A.* They can not. Their boxes are incapable, and must be incapable, of any tilting whatever.

"*Q.* 14. In the Gray patent, is there any new effect due to the arrangement of driving parts other than the capacity to have the counter-shaft adjusted out of parallelism with the roll shafts?

"*A.* None whatever, as I understand the question, unless it be the utilization of the disintegrator shaft as the counter-shaft, and even this is doubtful, because any ad-

justing movement of the counter-shaft would interfere with and be interfered with by the function of the disintegrator cylinder, which should always maintain a position concentric with and parallel to its surrounding shell. The driving of the mill by belts, the avoidance of the evils of gearing, the securing of roll motions in the proper directions, and the securing of differential roll speeds by belt, are all old effects in roller mills.

"*Q.* 15. As to driving belt exclusively, is or is not the Gray patent the first exposition?

"*A.* It is not. Goriwoda's mill was driven entirely by belt, and so also in the numerous examples in Mechwart's Austrian patent.

"*Q.* 16. As to driving four rolls by one receiving belt from 'the source of power,' is or is not the Gray patent the first exposition?

"*A.* It is not. In the Mechwart Austrian patent, in figure 3 of both sheets A and B of Mechwart's Austrian patent, there are four rolls. One belt drives the counter-shaft from the source of power, and two belts drive the rolls from the counter-shaft, thus involving a total of three belts between the source of power and the ultimate accomplishment, the same as in the Gray patent, and the same in figure 4 of sheet A. In figure 4 of sheet B, there are four rolls, and if the upper shaft be considered as the 'source of power,' as distinguished from a counter-shaft, then but one belt is required in the entire system of driving. If, however, the upper shaft be considered a counter-shaft, as distinguished from a line shaft or driving shaft, then two belts will be involved in the system, one from the source of power to this counter-shaft, and one from the counter-shafts to the rolls. In the one case, with the same number of rolls running in a similar manner, there will be two less belts than Gray employs, and in the second case one less.

"*Q.* 17. As to differential velocities by belt, is or is not the Gray patent the first exposition?

"*A.* It is not. Goriwoda's German patent drives entirely by belt and lays special stress upon his facilities for obtaining differential roller speed; and the same with Mechwart's Austrian patent.

"*Q.* 18. Same question as to smoothness of working by belt and evils of gear driving?

"*A.* Gray's patent is not the first exposition. In Goriwoda's German patent, it is stated that spur gearing had before been employed, and 'the disadvantages which

arise from such arrangement will be avoided by the driving arrangement shown in the drawing. The drive here is obtained by belts, and the adjustable rollers receive, on account of the desirability of an equal pressure, a drive on both sides from a counter-shaft which is arranged beneath the center of the roller mill frame.'

"In Mechwart's Austrian patent the evils of cog gearing is referred to and 'in order to avoid these disadvantages I drive both co-operating rolls by means of belts, and by this means can obtain an equal and also an unequal peripheral speed and a more quiet working of the machine.' . . .

"*Q.* 20. In defendant's machine, is the counter-shaft adapted to serve as a means of reversing the motion of the rolls, a means of sustaining and driving a disintegrator, and as a belt tightener?

"*A.* I should say most certainly not. Any attempt to cause the Obenchain tumbling shaft to serve as a disintegator shaft would destroy the functional capacity of both.

"*Q.* 21. In defendant's machine are there two rolls having pulleys connected by belts with one end of the counter-shaft, and two other rolls independently connected by belts with the other end of the same counter-shaft?

"*A.* No, sir. One of the counter-shafts has two pulleys and belts to two of the rolls only. The other counter-shaft has but one pulley."

If the patent were to be sustained at all it must be limited to the exact organization shown and described, with the mode of operation and effect possessed by it, and this defendant has not used.

In *Wier* v. *Morden*, 125 U. S. 98, the question of infringement turned upon whether the "two center rails, B B', joined to form the V-shaped point" mentioned in the second claim, necessarily meant two center rails having the peculiar construction described in the specification, or whether the claim was satisfied by any two center rails joined to form the V-shaped point, corresponding in terms to the remaining language of the claim; and the argument for the patentee was that, as the third claim had recited in terms the peculiarities of these center rails, B B', and the

second claim had not so recited them, the inference was that the second claim was not limited to the peculiarities mentioned in terms in the third claim. The court, overruling this argument, held that the two center rails, B B′, must mean, *as well in the second claim* as in the third claim, rails *having the peculiarities of construction described in the specification*. The Supreme Court quoted with approval the language of the court below, as follows (p. 105):

"It will thus be seen that minute directions are given as to the construction of the two center rails, B and B′, to form a V-shaped point, and I am of opinion that the two center rails, B and B′, described in the second claim, are the rails constructed and joined according to the description given in the patent. The language of the claim is, the two center rails, B B,′ joined to form a V-shaped point."

The Supreme Court, after further quoting from the court below, proceeds in its own language, as follows (p. 106):

"The claim refers specifically to the 'two center rails, B B′, joined to form the V-shaped point.' This points explicitly to the drawings on which the two center rails are designated by the letters, and also to the mode in which they are shown by the drawings and the description in the specification to be joined, and excludes the idea of constructing a frog, such as is intended to be covered by the second claim, of any other center rails than those thus pointed out and described. The patentee, by this mode of description and of claim, has made the center rails, formed and connected in the manner described to make up the V-shaped point, an essential part of the invention intended to be secured by the second claim.

"An argument against this construction made by the counsel for the appellant is based upon the language of the third claim. That claim is for the channel pieces, D, extending and bolted or riveted together beyond the point of the frog and connecting rivets, C, which extend entirely through the two-point rails and the channel pieces 'in combination with the point rails, B B′, fitted to each other as described.' It is admitted that the language of that claim limits it to point rails formed and connected together

so as to make the V-shaped point according to the specific manner described in the specification and shown in the drawings, and that it does not cover center rails of any other description. This limitation is based upon the words, 'fitted to each other as described.' It is argued that as this phrase is omitted from the second claim, the contrary inference must prevail, so that that claim may be permitted to extend so as to embrace all center rails joined to form the V-shaped point, however they may be fitted to each other. But this variation of language does not seem to us so significant. The second claim, by the use of the phrase at its close, 'substantially as shown,' limits its application quite as effectually to the particular kind of center rails described in the specification and covered by the first claim; and the reference therein to the 'two center rails, B B', joined to form the V-shaped point,' can only mean such point rails as are shown in the drawings marked B B', and joined to form the V-shaped point referred to in the drawings and described in the specification 'substantially as shown.'"

In *Hendy* v. *Golden State and Miners' Iron Works*, 127 U. S. 370, the claim was for "the feeding cylinder, I, mounted upon the movable timbers H H, substantially as and for the purpose described." The specification had described the feeding cylinder, I, as having its outward surface formed into chambers or depressions. This feature not being recited in the claim in controversy, it was contended in behalf of the patentee that the claim was not limited to it. The Supreme Court (p. 375), after referring to the fact that the cylinder, I, was described as having these chambers or depressions, said:

"The defendant's machine has a smooth cylinder, and not a cylinder with chambers or depressions. The specification of the patent describes the cylinder, I, as having its outer surface formed into chambers or depressions, separated from each other by longitudinal partitions. The cylinder of claim 1 is 'the feeding *cylinder* I,' *and to be such cylinder must be a cylinder substantially as described, and it is described specifically as having chambers or depressions.* The claim can not be construed to cover a cylinder with a smooth surface not formed into chambers."

In *Fay* v. *Cordesman*, 109 U. S. 408, the Supreme Court said:

"If the patentee specifies any element as entering into the combination, either directly by language of the claim or by such a reference to the descriptive part of the specification as carries such element into the claim, he makes such element material to the combination, and the court can not declare it to be immaterial. It is his province to make his own claim and his privilege to restrict it."

See to same effect: *Wicke* v. *Ostrum*, 103 U. S. 461.
Blake v. *San Francisco*, 113 U. S. 679.
Keystone Bridge Co. v. *Phoenix Iron Co.*, 95 U. S. 274.
Thompson v. *Boisselier*, 114 U. S. 1.
Sargent v. *Hall Safe and Lock Co.*, 114 U. S. 63.
White v. *Dunbar*, 119 U. S. 47.
Thatcher Heating Co. v. *Burtis*, 121 U. S. 286.
McCormick v. *Whitmer, Adm. of Hugh Graham*, 129 U. S. 1.

The Supreme Court has frequently emphasized the rule that

"In patents for combinations of mechanisms, limitations and provisions, imposed by the inventor, especially such as were introduced into the application after it had been persistently rejected, must be strictly construed against the inventor, and in favor of the public, and looked upon as in the nature of disclaimers."

Sargent v. *Hall Safe and Lock Co.*, 114 U. S. 63, 86.
Sheppard v. *Carrigan*, 116 U. S. 593.
Sutter v. *Robinson*, 119 U. S. 530.
(*See also See's sketch No. 3, opposite p.* 125, *Rec., and Obenchain patent, at end of Rec.*)

Upon the subject of infringement the Circuit Court said (p. 276):

"It seems to be proper for us to add that our judgment is with the defendant upon the defense of non-infringement, also. To understand the nature of the inven-

tion intended to be covered by the first claim, resort must be had to the specification, and we there find that the 'swivel boxes' are essential to the contemplated greater movement at one end of the shaft than at the other, whereby is effected 'the tightening of the belt or belts at one side of the machine without disturbing those at the other.' This is apparent on the face (of the) paragraph hereinbefore quoted at length, and the expert testimony is direct and convincing that to the practical working of the described device as a belt tightener, this swiveling feature is indispensable. Without the swiveled boxes Gray would not have 'independently adjustable bearings.' True, those boxes are not expressly mentioned in the claim, but we think they are to be regarded as entering therein by necessary implication for the reason just stated, as well as by force of the words 'as shown.' Moreover, the prior state of the art would limit the claim to the specific organization shown and described. *Phoenix Castor Co.* v. *Spiegel*, 133 U. S. 360, 369. But that organization the defendant does not use. His alleged infringement consists in the use of a roller mill manufactured under and in accordance with Letters Patent No. 334,460, granted January 19, 1886, to John B. Obenchain. In the defendant's machine the journal boxes are rigidly supported so as to be always horizontal and incapable of any tilting or swiveling motion, and this is essential to the working of the apparatus. A continuous counter-shaft is not employed, but three coupled base shafts, the outer shafts or sections being each journaled at the outer end in a vertically adjustable non-swiveling box, and the inner end of each being forked and carrying a loosely pivoted ring. These two rings are connected by a tumbling rod forked at each end and pivoted to the rings, thus forming a universal coupling; and thereby through the center shaft or tumbling rod, rotary motion is transmitted from one of the end shafts or sections to the other, no matter how much they may differ in vertical position.

"Now for the reasons already given, we are of opinion that such a construction of Gray's first claim as would embrace the Obenchain device is admissible.

"The foregoing views being decisive of the case, we deem it unnecessary for us to consider the other grounds of defence."

STATUTORY EXPIRATION OF GRAY PATENT.

Prior to Gray's application for patent here in controversy he had applied for patents both in Austria and in Germany for the same subject-matter. His Austrian patent and his German patent both issued prior to the allowance of his American patent. The German patent was issued March 5, 1879. The Austrian patent was applied for February 28, 1879, and issued December 17, 1879. The Austrian patent was granted for one year, but was extended from term to term so as to continue in force until December 17, 1884, when its last term expired. Its expiration was officially recorded. The German patent expired at the end of six years, namely, March 5, 1885.

See Gray Austrian Patent, Rec., p. 194; Extract from Patent Register, pp. 193–194; Gray German Patent, Rec., p. 205; Stipulation, p. 286.

It is insisted in behalf of the appellee that the American patent was terminated by the expiration of the earliest foreign patent (the Austrian), and that it had, therefore, terminated prior to the act complained of, and prior to the commencement of this suit, irrespective of whether the American statute is to be taken as referring to the term for which the foreign patent is granted or the term for which it is continued in force.

Identically the question here presented was involved in the case of *Commercial Mfg. Co.* v. *Fairbank Co.*, 135 U. S. 176, where the American patent was held to have been terminated by the expiration of an Austrian patent which had been granted under the same statute as the Gray Austrian patent, for a shorter term than that for which it might have been granted under the Austrian law, and had, after being extended from term to term, expired at the end of the last period for which it was extended, which was less than half the term for which it might have been extended. The last clause of the American statute is (sec. 4887):

"But every patent granted for an invention which has

been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years."

The provisions of this statute were, in substance, borrowed from the English and other foreign laws, in which it was commonly provided that the domestic franchise should expire with the earlier foreign franchise obtained by or in behalf of the same patentee, the intention being to prevent a continuation of the monopoly at home after its expiration in any country in favor of which an inventor had discriminated by publishing the invention though an earlier patent.

It is to be remembered that a patent is, in contemplation of law, a means of communicating to the people of the country in which it is taken out an invention which otherwise would not be known to them. The monopoly conferred by the grant of the patent is the incentive and the reward for introducing the invention through this official channel to the attention of the public. The man who took out a patent in England was considered as thereby placing the English public in possession of an invention of which it would otherwise remain ignorant. If he elected to confer that benefit upon a foreign community in advance of his own country he was considered as thereby discriminating in favor of that foreign community. If a foreigner applied for a patent in England he was obliged to do so through a resident; and if he had first obtained a patent abroad his English patent was, by statutory provision, terminated by the expiration of the earliest foreign patent obtained before the issue of the English patent. Under the construction placed upon this law, the termination of the foreign patent, irrespective of whether it was due to the statutory limitation of term or to any default that caused it to expire within the term, had the effect of terminating the English patent. The English authorities constantly refer to the policy of the law which limited the British franchise so as to expire with the ear-

liest foreign franchise, as intended to prevent the patentee from enjoying a monopoly in England after the franchise had accrued to the benefit of the public abroad. This was carried so far that, where an extension of an English patent was applied for, and it appeared that the foreign patent had been granted *after* the English patent but had been allowed to expire, it was held that the policy of the English law would forbid the extension of the English franchise beyond the term for which the foreign franchise had been continued in force. (See cases hereafter cited.)

It may be plausibly urged that the patentee who has not taken out any foreign franchise has thereby left foreign countries at liberty to use his invention without restriction, and that the patentee who has taken out a foreign franchise, thereby for a certain period restricting foreign competition, should not be discriminated against. If this argument were sound it would be pertinent rather as a ground for repealing the present statute than as a reason for refusing to enforce it according to its terms; but the answer to it is that in contemplation of law the patentee who patents his invention at home before patenting it elsewhere has given this country the benefit of its first publication, and has not discriminated in favor of foreign countries, while the patentee who has taken out a patent abroad in advance of the issue of his American patent has constructively conferred the benefit of his invention upon the foreign country in advance of his own country. It is for the interest of this country to have the term of the American patent begin to run at the earliest possible moment, both to give the American public the advantage of earlier knowledge than other countries, and that the monopoly may not continue here after it has become public property in competing countries.

It is true that modern facilities for the exchange of commodities and of intelligence have largely superseded the conditions which made the issue of a patent in any particular country an actual discrimination in favor of that country; that in many instances the public, both at home and abroad, obtain their knowledge of an invention through

other channels more speedily than they do through the issue of the patent; and that many of the considerations which led to the introduction of this statutory limitation (which is not peculiar to this country, but is common to most, if not all, European countries) have less force now than they had formerly; but this does not change the purport or legal effect of the statute.

There are still many reasons for making it to the interest of the patentee to publish the American patent in advance of any foreign patent, and for insisting that he shall not continue to enjoy the monopoly here after the invention has become public property in the county where he elected to first patent it. Presumably the country in which he first patents it will be one whose relative position in the art makes it a leading competitor, while those in which no patents are taken will, for the same reason, never become formidable competitors in respect to it. This is illustrated by the fact that Gray selected for his first patent the country where roller mills were most manufactured, and for his second the country ranking next in this respect, while postponing the promulgation of the American patent until both these countries had enjoyed the benefit of these patents for many months.

Under the English patent law, any publication in England, whether through a foreign patent or otherwise, which communicated the invention to English subjects was fatal to any subsequently procured English patent, though the English invention might antedate the publication, the theory of the grant being that it was a reward for actually conferring upon the English public, through the channel of a patent, an invention of which it had not before obtained knowledge through any source. In referring to this limitation in the English law (from which the provision of the American statute of 1870 was apparently borrowed), Sir J. T. Coleridge said that the policy of the act

"is to prevent, in the case of inventions made and pat-

ented in any foreign country, the continuance of a monopoly in this country by virtue of any patent subsequently granted here beyond the time when the discovery shall have become public property in the foreign country."

See

Hill's Patent, 1 *Moo. P. C. C.* (*N. S.*) 258.
Agnew on Patents, *p.* 191–2.

In referring to the same subject, Sir W. P. Wood said:

"Now, in looking at s. 25, one sees at once that the object was to prevent the subjects of this kingdom from being fettered in their right to compete with each other in the production and manufacture of different articles, when it was open to foreigners to enter into such competition without being fettered by any exclusive rights claimed by an inventor and patentee, or by the additional price which must be imposed upon the article in consequence of the patent right. The object, I say, is to prevent the English manufacturer from being fettered while the foreigner remains free."

See

Daw v. *Eley*, *L. R.* 3 *Eq.* 510.
Normand's Patent, *L. R.* 1 *P. C.* 193.
Johnson's Patent, *L. R.* 4 *P. C.* 75.
Winan's Patent, *Ib.* 94.
Blake's Patent, *Ib.* 535.
Agnew on Patents, *p.* 192.

Again, in Agnew on Patents, p. 192, Sir W. P. Wood, P. C., is quoted as having remarked as follows in *Daw* v. *Eley*, in reply to the argument that it appeared very hard to prevent the English manufacturer from having the benefit of manufacturing that which all the rest of the world could manufacture if no foreign patent had been taken out, and then to say if it is protected for a certain limited time abroad, then and then only, when that protection has ceased, shall the English manufacturer become free.

"This argument was raised in Blake's patent (*a*), where it was contended that there is not much difference

between allowing a foreign patent to expire, and not taking out a foreign patent at all. The difference was there pointed out to be that where a patentee takes out a patent for his invention abroad, he is taking active measures to make the invention known in the country in which he takes out such patent; and the legislature has not said that no patent shall be granted in England for a foreign invention unless the inventor shall have taken out a patent in some other country, and that if they had so provided, it would in effect be prohibiting altogether the grant of a patent for a foreign invention."

See Agnew on Patents, p. 193.

In re Betts Patent, Lord Chelmsford in a decision rendered in 1862, said:

"Where a patent is taken out in a foreign country before a patent for the same invention in the United Kingdom, the latter patent is to terminate at the same time as the foreign patent. Where the term in the foreign patent has expired, any grant of Letters Patent in the United Kingdom made after that period is to be of no validity."

See 1 *Moo. P. C. C.* 59; *also Higgins' Digest, p.* 301.

In re Poole's patent, in a decision in 1857, where it had been contended that a foreign patent, taken out after the English patent, should prevent the extension of the term of the English patent, Lord Romilly said:

"Their Lordships are of opinion that this clause of the statute (sec. 25), must apply to a case where a patent had been previously obtained in a foreign country. And it is obvious, from various considerations, that that must be the meaning of the clause, for, if not, an English born subject who took out a patent in this country for an invention invented here, could not venture to take out a patent in a foreign country if the patent in the foreign country was of shorter duration than in this country, as for instance in Belgium, where the term appears to be ten years, as it would absolutely preclude his ever applying for continuation of the patent here, inasmuch as the patent for the

same invention would previously have expired in the foreign country."

See 4 *Moo. P. C. C., N. S.* 458; *also Higgin's Digest, p.* 302.

In re Normand's patent, where the English patent was taken out first and a subsequent patent in France, which latter patent, at the date of the application for a prolongation of the English patent, had a year to run, it was held by the judicial committee that they could not recommend the Crown to extend the term upon the chance of the French patent being extended, and

"That if the French patent had expired there was no power in the committee to recommend an extension of the English patent."

6 *Moo. P. C. C., N. S.* 477; *Higgin's Digest, p.* 302.

In re Winans' patent, the English patent had been taken out before the French patent, and an application was made for an extension of the English patent. It was held that, while the fact that the English patent was taken out first excluded the case from the statutory limitation, it was against the general policy to renew the English patent "*after the French patent had been allowed to expire.*"

8 *Moo. P. C. C., N. S.* 306.

In re Blake patent, the English patent was taken out before the French patent. Upon an application to extend the English patent, it was held that on the ground of public policy, as the French patent *had been allowed to expire*, they would not recommend an extension of the term.

9 *Moo. P. C. C., N. S.* 373.

Sir Barnes Peacock, in delivering judgment, said:

"The word 'such' in the proviso in the 25th section

of the statute 15 and 16 Vict. c. 83, has already received a judicial construction, the word 'such' being held to apply to a patent taken out in a foreign country before the grant of letters patent in *England*. (*In re Bett's Patent.*) Their Lordships, therefore, think the meaning is, that where a patent is taken out in a foreign country before the grant of letters patent in *England*, and the foreign patent has expired, then that the patent in *England* should cease to be in force, and that where one 'such' patent, or the old patent, has been obtained abroad, then the English patent shall be determined at the expiration of the earliest of the letters patent granted in a foreign country."

L. R., 4 *P. C.* 537.

Under the Austrian patent law the expiration of a foreign patent for the same invention terminates the Austrian patent.

See 4 *O. G.* 208.

A similar provision is found in other European patent laws. In many countries the publication of a foreign patent bars any domestic patent. Under the French law the French patent can not continue in force after the expiration of any previously obtained foreign patent. Neither there nor in England can the domestic patent continue in force after the previous foreign patent has been terminated, and it makes no difference that the foreign patent might have continued longer. It is plain that the provision of the American statute is not an anomaly. It was enacted after the English decisions, which have before been recited, and plainly with the purpose of enforcing in this country the same policy that had been enforced abroad of terminating the monopoly here at the earliest date at which it was terminated in any country in which an earlier patent had been issued. The decision of this court in *Bate Refrigerator Co.* v. *Hammond*, 129 U. S. 151, in giving to the American patentee the benefit of any extended term which the foreign patent actually procures, has placed upon the American statute the most indulgent construction of which it is capable, and the stress laid in

that decision upon the fact that the patentee *had availed himself of the provisions for continuing the foreign patent in force*, and upon the doctrine that the American patent "is to be in force *as long as the foreign patent is in force*," and that the American patentee could give evidence of extensions and thus "show the time *when, by virtue of such extension*, the United States patent will expire," would be altogether misleading if that decision was not to be understood as treating proof of a continuation of the foreign franchise beyond the term for which it was originally granted as necessary to prevent the lapse of the American patent at the expiration of the shorter term for which the foreign franchise purported to be granted.

The decision of the court below, holding that neither the limitation upon the face of the foreign patent nor the actual expiration of the foreign patent is to affect the term of the American patent, tends at once to defeat both the terms and the spirit of the statute, treats as irrelevant and misleading substantially the whole discussion of this court in *Bate Refrigerator Co.* v. *Hammond*, and rejects the law actually administered by this court in the case of *Commercial Mfg. Co.* v. *Fairbank*, 135 U. S. 176, where an Austrian patent, which had expired in the same way as the Austrian patent here under discussion, was held to have terminated the American patent.

Substantial reasons can be suggested why the term of the American patent should be limited by the term for which the foreign patent was actually continued in force irrespective of whether that was the term for which it was originally granted or a term for which it was subsequently extended under provisions of the foreign statute; plausible reasons may be suggested why the nominal term for which the foreign patent was actually issued should control, though these reasons may disregard the real purpose and intent of the statute; but neither substantial nor plausible reasons can be suggested why the American statute should have provided for the expiration of the American patent at the end of a term for which a foreign patent *might have been* granted.

If the American patent is to be taken as limited (as it was held in *Bate Refrigerator Co.* v. *Hammond* to be limited) to the term which the foreign patent is continued in force, the statute is given precisely the effect which the policy of the English law from which it was borrowed, and the tenor of the English decisions which preceded it, would indicate that it was intended to have. The statute is then logical and consistent with a well defined and historic policy. Whether the reasons for it are approved or otherwise they are at least intelligible. But certainly when Congress enacted that "every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, with the one having the shortest term," it did not intend to enact that the American patent should continue in force after the expiration of the foreign patent, *if* under the terms of the foreign law the patentee *might have procured or maintained* a patent for a longer term.

It would have been easy to find language to express such an intent if such had been the purpose, but it would be difficult to conceive of any motive for such a provision. The statute was dealing with *actualities*, not with *might-have-beens*.

If the patentee could, at his option, have extended his patent in the country where he caused the first patent to issue, and thus given it a longer term, and has elected to let the invention become public property there, his case is certainly no more meritorious than if the arbitrary limitations of the foreign law imposed an insuperable barrier against any longer term. It may be said with much force that where he has availed himself of the provisions of a foreign statute to extend the patent from time to time, so that it has never actually lapsed, he occupies the same position in reference to the American franchise as he would if the original foreign grant had been for the full term for which it has been kept in force; but to hold that where he has elected, first, to cause his foreign patent to issue in advance of his American patent, and, second, to take that

patent for a short term, and, third, not to renew that term, but to allow the invention to become public property in the country to which it was first introduced by patent, he may still continue to enforce his monopoly against the American public to which it was last introduced, is to set at defiance both the terms and the spirit of the statute. It is practically to say that because the court does not approve such a statute it will studiously nullify it.

The statute is not a harsh one nor an unreasonable one. The avowed object of the patent law is to encourage inventors to introduce their inventions to the American public. While protection to inventors is incidental to that object it is neither the sole nor the primary motive of patent laws. The benefit of the people of the United States is the controlling object of the enactments, and any construction of them that disregards this and treats the inventor as the only object of consideration is fallacious. If inventors elect to first patent their inventions abroad it is an extremely liberal policy which enables them, notwithstanding this discrimination against the United States, to procure and maintain a monopoly in this country that shall continue in force as long as their foreign monopoly is continued in force in the country upon which they have chosen to first confer the benefit of the patent. If the statute is considered objectionable it is for the legislative rather than the judicial department of the government to modify or repeal it.

In *Commercial Mfg. Co.* v. *Fairbank*, the Austrian patent was granted under the same law as the Gray Austrian patent in this case and the conditions of its expiration were identical. This court, which had recently several times considered and passed upon this statute, held distinctly that such expiration of the Austrian patent terminated the American patent. The opinion was prepared by the same justice who had shortly before prepared the opinion of this court in *Bate Refrigerator Co.* v. *Hammond*, 129 U. S. 151, and in *Pohl* v. *Anchor Brewing Co.*, 134 U. S. 381. The court below insists that the only question presented by that case was "as to the identity of the

United States patent with the Austrian patent," but this identity was only material if, as matter of law, the termination of the Austrian patent at the end of the seventh year was such an expiration as brought the case within the terms of this statute. The Austrian patent in that case, as in this, had been granted for a shorter term than under the Austrian patent law it might have been granted for. The conditions of extension were the same as in this case. If the question whether the expiration of the term for which the patent had been granted and extended was sufficient to bring the case within the American statute was not elaborately discussed in that case it would appear to be because either counsel, or court, or both, considered that quesiton too well determined to be open to discussion. The leading counsel for complainant in that case was also counsel in *Bate Refrigerator Co.* v. *Hammond*. That decision seemed so clearly to indicate that the provisions of a foreign law for continuing a patent in force beyond the term of its original grant only became available for the purpose of preventing the lapse of an American patent at the end of that nominal term where the extension had actually been obtained, that there seemed to be no room for further discussion.

The circuit court lays stress on what it terms a "copy of the official opinion of the Austrian Minister of Commerce," submitted to it by complainant, which states the legal effect of an Austrian patent which has been extended in compliance with the law, to be the same, for the period for which it is extended, as it would have been if the original grant had been for the full term, and treats this opinion as conclusive concerning the effect of the Austrian law on the American patent.

Now it is evident upon a glance that the document which is labeled "Official Certificate" in no sense represents an action or opinion of the Minister of Commerce upon any question brought before him in his official capacity. It is simply a document signed by him for use in America, and by its terms strongly suggests that it may have been drafted in America. It does not even purport

to have been filed among the public archives of Austria, or to represent any judicial action. The certificate shows plainly that it was not an official document, and was not filed as such, and that it did not even bear the official stamp. The certificate is simply that of a notary, not that of an officer of government, and is as follows:

"Collated and found consonant word for word with the unstamped original lying before me." (*See Rec., p.* 237.)

There are the usual certificates as to the identity of the notary's certificate, and of the fact that he is a notary within the district, all having the pompous terms of an Imperial government, but they can not convert this into a judicial document. The certificate and the officer signing it are very different in character where an official document is the subject of the certificate. (*See certificate at top of page* 194.)

Complainant's closing expert testimony in the present case was taken in August, 1888. This "Official Certificate" was signed by the Austrian Minister two months thereafter, and intermediate between the closing of proofs and the submission of this cause to the court. The copy for use in this case was made so shortly after the date of the original as to imply great promptness in ordering a document that could hardly have been published in Austria, and certainly could not have reached this country through public channels. It is much easier to see how it might be useful in America than how it could be pertinent to any question arising in Austria.

It seems like an excessive compliment to Doctor Beck to treat this extra official expression as equivalent to the judgment of a court of final resort on a cause judicially before it. If the United States Commissioner of Patents should furnish an English solicitor with a memorandum showing his understanding of the effect of an American statute upon a question arising under English law, such memorandum would hardly be accorded by the English

court the same weight as the judgment of this court rendered in a controversy of which it had jurisdiction.

But if this "Official Certificate" were to be accorded the weight of a judicial decision, it has no significance on the question here to be determined.

That the Austrian patent, when actually extended, has the same effect in securing a continuous franchise to the patentee as if originally granted for the term to which it is extended is not a matter in dispute. That is the effect of extensions of patents generally. Under the American law, which formerly authorized the extension of patents upon certain conditions, it was in terms provided that

"thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years."

This refers to its *effect upon the franchise held under it*, but it by no means followed that the indirect effect upon the rights of parties under contracts or licenses or other statutes might not be very different from what it would have been if the original grant had been for the term of twenty-one years. That the effect upon such rights was entirely different under the American statute was repeatedly adjudicated by this court.

Bloomer v. *McQuewan*, 14 How. 549.
Mitchell v. *Hawley*, 16 Wall. 544.
Gunson v. *Dodge*, 18 Wall. 414.
Paper Bag Cases, 105 U. S. 766.

The only question that could arise before the Austrian Minister was whether the effect upon the Austrian franchise was the same where it was extended as where the longer term was embraced in the original grant, whether it was subject to attacks upon its validity or defenses against infringement that would not have been available if the original grant had been for fifteen years. Even with reference to such questions he does not pretend to say (and could not without contradicting the terms of the Austrian law) that the effect of a patent

granted for a short term *and not extended* is the same as the effect of one granted for a long term. It is with this question of the legal effect of a patent granted for a short term and *not extended* that we have to deal. The Austrian Minister has no special qualifications for expressing an opinion upon the legal effect of the shorter term upon the clause of the American statute here under discussion.

The extension of the Austrian franchise was not, under the Austrian law, a matter of unqualified right. There were many conditions under which it could not be extended. Failure to manufacture within the country within one year from the date would invalidate the franchise so that it could not be extended. Failure to manufacture for two consecutive years thereafter would have the same effect. If the Minister of Commerce became satisfied that the franchise was "injurious to the public interests" it could not be extended. It could never be extended beyond the term when a foreign patent for the same invention has expired.

In the very case here under consideration the German patent to Gray founded upon the same invention here in controversy, had expired within the meaning of the Austrian law, if not within the meaning of the American law, March 5th, 1885, and would have been a bar to the extension of the Austrian patent. (German Patent, p. 205; Stipulation, p. 286.)

The controlling fact, however, is, that whatever the rights of Gray might have been, in respect to procuring a longer term or obtaining an extension of his patent, he *did not avail himself of that right*, and the term for which his patent was granted and the term for which it was extended have both expired. The court below alike in considering the "Official Certificate" from the Austrian Minister, and in considering the opinion of this court in *Bate Refrigerating Co.* v. *Hammond*, seems to have disregarded the essential fact on which both of them were predicated, namely, that an extension had actually taken place and the patent had thereby acquired a term additional to that for which it was originally issued. Conceding that it is

immaterial whether that additional term be acquired at the date of the original grant or by a subsequent extension the fact remains that in this case *it was never acquired* at any time or in any way.

The explicit provision, consistent with the policy of other countries, from which this provision was borrowed, is that the American patent "shall expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term," apparently taking every precaution to insure that the American patent should not continue in force beyond the foreign patent which first expired.

It has sometimes been argued that the provisions of this statute could only apply to a case where the foreign patent was granted before the American was applied for, but the language of the statute, as well as the obvious intent of it, excludes such a construction. The statute provides:

"No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been *first patented* or *caused to be patented* in a foreign country, unless the same has been *introduced into public use* in the United States *for more than two years prior to the application*. But every patent *granted* for an invention which has been *previously patented* in a foreign country shall be so limited," etc.

Throughout, in defining the relation of the foreign patent to the American, the reference is to the comparative date at which the thing is *patented*, not to the comparative date of applying for the patent. This is made still plainer by the fact that the same section of the statute, when referring to the term of public use, *limits it carefully by the date of application* for patent, in sharp antithesis to the clause which makes "its having been *previously patented in a foreign country*" the condition of the limitation of the term provided for in this section. It is the date when it is first patented (that is, the date when it is first published to the public by the issue of the

patent) which determines whether the foreign country or the American is given the precedence.

If the date of application were to be taken as the test, rather than the date of patenting, the case would be no more favorable to complainant, for the foreign patent was applied for as well as issued in advance of the American The Austrian patent was applied for, and the German patent issued, many months in advance of the American application. The applicant has absolute control of the order in which his patent shall be issued in the several countries. In this country the date of payment of the final fee determines the date of issue. It is a matter which he can regulate to suit himself. If, therefore, the patent abroad goes into effect in advance of the issue of his patent here, he has exercised his election, and has nobody to blame but himself for having his American franchise thereby limited according to the terms of the statute under which he obtains that franchise.

The purpose of the statute obviously has reference to the priority of the promulgation of the patent, rather than to priority in lodging the application in the secret archives.

It has been suggested, though it may not be seriously argued, that the American statute in controversy was only intended to apply to foreigners, but the terms of the statute and the history of patent legislation in this country alike exclude any such hypothesis, while there can be no reason for dealing less favorably with an American who first patents his invention abroad than with a foreigner who first patents in his own country. Of the two, the American who discriminated in favor of a foreign country would seem to be the less entitled to indulgence.

Any consideration of the patent law which treats it as enacted solely for the benefit of inventors, and disregards the fact that it is enacted quite as much for the benefit of the public who are to receive the advantage of the invention, is misleading. It is designed to induce inventors to put the American public in possession of their inventions at the earliest practicable moment, and to se-

cure to the American people at large all possible benefits from the invention. It is designed to prevent any discrimination that would give foreign countries advantages in such inventions over our own country.

Some of our earlier statutes discriminated against patents taken out here in behalf of foreigners, but it seems to have been soon realized that the policy of the American law was to afford every inducement to foreigners to patent their inventions here that was afforded to American inventors.

The act of 1793 gave the right to obtain patents to "citizens of the United States." (*Sec.* 1, *Act of* 1793.)

In 1800 an act was passed to extend the same rights to "all aliens who at the time of petitioning in the manner prescribed by the said act shall have resided for two years within the United States." It was further provided that if the invention had "been known or used either in this or any foreign country" at the time of the application for the American patent, no American patent should be granted, or if granted, it would be void. (*Sec.* 1, *Act of* 1800.)

In 1832, the same rights were extended to "every alien who, at the time of petitioning for a patent, shall be a resident of the United States, and shall have declared his intention, according to law, to becoming a citizen thereof," it being further provided that the patent should be invalid if the patentee failed for one year from the issue thereof to introduce the invention into public use, or if at any time thereafter it failed to continue in public use for any period of six months. (*See Act of July* 13, 1832.)

The act of 1836 abolished the distinction between citizens and foreigners and extended the right to obtain patent to "any person or persons." (*See Act of July* 4, 1836, *sec.* 6.)

The term used in the act of 1870 (sec. 4846 Rev. Stat.), to define who are competent to obtain patents, is the same as that used in the section here in controversy to prescribe the limitation. It is "person" in each case, not "resident" or "citizen." The two sections

are consecutive, and there is no more reason to suppose that it was intended to limit section 4887 to citizens or residents than that it was intended to so limit section 4886. The language is in itself incapableof a construction that would make such a distinction, and the context excludes it.

It is submitted that the patent here in suit, if ever valid, was terminated with the expiration of the longest term for which the Austrian patent for the same invention was extended; that the invention having accrued to the public in Austria where it was first patented, by reason of the expiration of the last term for which the Austrian patent was granted, it has, at the same time, accrued to the public in this country.

The identity between the Austrian patent and the American patent is complete so far as all matters of substance are concerned. The difference in phraseology is immaterial. The expiration of the Austrian patent carried with it to the Austrian public the right to use every thing that purports to be secured by the American patent.

See

Siemens v. *Sellers*, 123 U. S. 276.

Commercial Mfg. Co. v. *Fairbank*, 135 U. S. 176.

The entire subject-matter of the American patent was communicated to the Austrian public by the Austrian patent. It has become public property there, not by the forfeiture of any franchise once secured, but by the expiration of the term for which the franchise was secured. Its unrestricted use in that country is not even embarrassed or deterred by any nominal continuation of the patent.

Whether the court approves or disapproves of the policy expressed in this statute is not the question. Its intent is plain, especially so when the English decisions preceding its enactment are considered. This court has already been extremely indulgent toward patentees in so construing the statute as to give them the benefit of extensions actually procured. It is now asked, in behalf of a

patentee who chose to go to Austria for his first patent, to reject the very logic by which it has gone thus far and to abrogate the safeguards which the law has provided for the American public.

If a statute is equally capable of two constructions, one consistent with an obvious public policy and the other inconsistent, doubts may be solved in favor of the former, but disapproval of a statute affords no warrant for throttling it by a construction that at once disregards its terms and defeats its purpose.

Respectfully submitted.

ROBERT H. PARKINSON,
Of Counsel for Appellee.